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Acetonæmia and its Association with the Retention of Uterine Fluids.*

By Richard Hudson, F.R.C.V.S., Retford.

I have ventured into a district which may be regarded as being intensely occupied in dairying, and therefore I may expect that the disease, which is commonly met with in cows at their highest period of milk production, will be prevalent among them. That being so, many practitioners will know something about the condition and, by discussion, will help to increase their knowledge of it.

I am not appearing before you as one who has worked out any hard and fast theories about the disease. I bring you some notes and extracts so that we may help to put the disease on a proper basis.

The term "acetonæmia" is good in that it definitely describes the condition that has been brought about, but it is only a symptom. The old term "retention of second cleansing" is crude, but keeps the light on where we may want to be. Of course, there is no second cleansing, but in all cases there is a good deal of débris which may be retained.

Some time ago (*Veterinary Journal*) I called it "retention of uterine fluids." Perhaps it would be better to blend the two and call it "uterine acetonæmia." I would define it as a disease affecting bovines, associated with parturition, acetone-smelling breath and great wasting. I believe that the disease has been recognised for many years, particularly in dairying districts, where it is known as "retention of second cleansing." It has been mixed up with eclampsia following parturition, cerebral conditions, indigestion, rabies, tuberculosis, atony of the stomach, etc.

Fleming, in his *Veterinary Obstetrics*, 2nd edition, p. 669, summarises a collection of cases under the causes of eclampsia uterina as follows :—"The animal has been calved some days, say four to fourteen, even more, feeding and milking properly and the usual lochial discharges have been suppressed, or the case may be thus stated—an excessive drain upon the system by the mammary secretion, causing, perhaps, the suppression of the lochial discharges and uterine cleansing with peculiar smell about the animal and more marked in her milk, followed by more or less severe indigestion. These act upon nerve centres so as to produce extraordinary excitement. The bowels become torpid and the supply of milk ceases. It is scarcely possible to believe this condition is due to physical causes, but either to indigestion, constipation, or deranged circulation in the brain, and related to the parturient state."

Coming to more recent times, we have the disease mentioned by Imrie in the *Veterinary Journal*, under the "Uses of Formalin," and I believe before that, but I have not a reference. In the present edition of Hutyra and Marek, we have the disease described elaborately under the name "Acetonæmia."

The disease is commonly met with during the winter months while the cows are housed. It is most prevalent during the late winter months because at that time most cows calve and are suffering from the effects of prolonged housing. I have not seen it during the grazing period except in two cases—one where parturition had been delayed and the other where milk fever had existed five days without treatment. The animals affected are cows from the second calf onwards, and its prevalence increases with age, though this may not be noticed owing to the cows being sold in some districts at the third and fourth calving to supply the dairying districts. The better milkers may be regarded as being most susceptible; they are usually closer bound, and heavy milking may weaken them. The youngest I have seen affected was a second calver, and the oldest had had about ten.

The Cause.

The predisposing causes appear to be want of exercise and calving. Exercise stimulates uterus contraction and brings about expulsion of its liquid contents.

What is the actual cause? It has been proved that acetone is present in large quantities in the blood and urine of these cases, but what caused it to get there and from where did it come? Can it be manufactured in the uterus? The contents smell strongly of it, but it may have been carried there in the blood stream. That the uterus has a lot to do with it I feel sure, because in some cases the onset of recovery may be marked from the period of recurrence of uterine discharge, and in others where I have let the case go on without uterine interference and without any progress in the course of the disease, often otherwise, I have soon had improvement after uterine flushings. It may be that as the result of the decomposition of the uterine contents some substance is produced which leads to the production of acetone in the blood and tissues. It has been thought to be due to stomach derangement, but I think that is only a secondary condition. Many cases ruminate sufficiently to dispose of the quantity of food they take and the common symptom, grunting, is usually absent.

In considering the etiology, the following extracts from Hutyra and Marek are interesting :—

Open to conjecture.

Absorption of aseptic lochia.

Toxins formed in the udder.

Too rich and unaccustomed foods.

Processes of decomposition in the stomach and intestines with abnormal catabolism of protein.

Increased fat and protein catabolism with increased production of acetone compounds (beta-oxybutyric acid, di-acetic acid, and acetone) and transmigration of fat to the liver for conversion into sugar. (Thus the liver enlargement—infiltration). Acetone compounds follow

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insufficient combustion of carbohydrates. Thus the condition points to a deficiency of adrenalin following exhaustion of parturition and milk secretion and possibly increased tonus of the vagus and insufficient conversion of glycogen to sugar, following parturition and milk production.

Acidosis due to increased production of acetone compounds with neutralisation of the alkali in the blood, thus bringing about stupifying carbonic acid and other waste products of metabolism."

I have but little knowledge of organic chemistry, but in support of my theory of the uterine origin of the disease, I would quote from Halliburton that " the products of decomposition of placenta leucine and tyrocin are capable of conversion into products iso-amylamine and oxy-phenylithylamine which exert a pressure action on arterial blood pressure similar to adrenaline, and so we may get insufficient combustion of carbohydrates and the production of acetone."

SYMPTOMS.

We usually see cases about ten days to three weeks after calving and they have often been ill for some days before, so that one may place the early symptoms at about seven days after calving, and the latest at seven to eight weeks. In the late cases, enquiry will usually reveal that symptoms have been in existence some time, as evidenced by loss of condition and gradual falling off in the milk yield.

The symptoms viewed over a number of cases show so interesting and varied a tableau that I think they might better be placed under three groups, *viz.*, mild, severe and nervous types, all having the predominant one of the acetone-smelling breath.

In mild cases one notices little change in the animal. There is the smell only in some cases. I have noticed it on entering the byre and have enquired which cow was ill, and been informed that they were all well. I have examined the breath and milk of the cows until I have found the affected cow, and there has been nothing else by way of symptoms. Other cases show slight loss of appetite, weakness, reduction of milk yield, subnormal or slight elevation of temperature (1°—2°), increased or reduced pulse rate, constipation, and a shrunken appearance.

The severe cases may show great weakness after rising with difficulty, and rocking when walked. The breath, urine and milk have a strong significant smell, appetite and rumination may be entirely suspended or both feebly carried on, the pulse is fast, often 80 per minute, temperature variable, 102° to 104°.

Nervous Symptoms. Along with the foregoing symptoms, one may see, if the animal is turned out, incoordination of movement, partial loss of use in the limbs which may lead to falls, circus movements, partial and total blindness, fits. One animal lying down was biting at her legs, " slavering," and champing its jaws. When made to rise she stood steady on her feet and champed on the manger. When the head was raised for dosing, the muscles of the neck and jaws were rigid, and the jaws were prised open with difficulty.

Another case when turned out went to a drinking trough, and while drinking fell over and lay kicking for some minutes.

Sometimes there is evidence that a seizure may have taken place in the stall, injury having resulted as in the following case.

I was examining for dairy inspection and smelt the acetone smell on entering. Later I picked out the cow which was affected and remarked that " she ought to be ill," but the owner replied that " she was all right." Two days later I was called to see her because, in the words of the owner, " she had had her leg over the chain and injured it." She was now ill, off her feed, etc. ; and the leg trouble was only a minor detail. I think she had had a seizure and fallen foul in her stall.

One other case I would like to relate because it is about as bad as any we are likely to meet.

It was reported that she had lost her appetite that day, but having seen her shortly before calving, when she was then very fat, she must have been losing flesh very rapidly. The box has the peculiar smell associated with the disease, which can be traced in her breath, milk and urine. She stands out-stretched like a horse with laminitis, looks heavy and drowsy about the face, one eye is weeping, and the eye-lid drooping. The iris is contracted and a deposit of blood is present in the anterior chamber (internal ophthalmia). The pulse is fast, heart beats pounding, temperature 104°. The urine is high-coloured, plentiful, and smells strongly of acetone. After passing it she holds up her tail as if irritated and now and again jerks her hind quarters as if in pain. When walked out she is unsteady and stiff in her gait, and does not see well. There is no vaginal discharge, and she has not shown any since a few days after calving. The vaginal mucous membrane is darker in colour than normal.

THE COURSE OF THE DISEASE.

Mild cases pass with little interference with general health ; the acetone smell, which may be taken to indicate the duration of the disease, vanishing in about a week. Usually, however, it takes two to three weeks before the cow is back to her normal appetite, and some may be longer regaining the normal milk yield. Severe cases may take two to three months to recover, while others, missing accidental deaths and seizures, may carry on as wasters until they die from exhaustion, or are sent to the knackers.

POST-MORTEM EXAMINATION.

The opportunity for a *post-mortem* examination has unfortunately been rare. My first case happened when I had not recognised with what I had to deal, and I was looking for something else. The cow having wasted rapidly and having a nodule in her udder, I tested her for tuberculosis and she reacted. On slaughter, the nodule proved to be a cyst, and I could not find any tuberculous lesion. The womb contained a quantity of dirty pink creamy fluid.

Another which had lingered for eight to nine weeks showed nothing, on *post-mortem*, but a quantity of similar fluid in her womb, which had a strong smell of acetone.

TREATMENT.

No matter what the weather is like, I have the patient well rugged and put out for as long as possible in a safe paddock or field. In mild cases that appears to be all that is necessary. Food should be nutritious and easy of

digestion; small feeds of scalded chop and bran, or rolled oats being preferred.

In more severe cases large doses of soda bicarbonate and chalk have been suggested with a view to neutralising acetone, Formalin is suggested by Imrie. Along with fresh air and exercise I have found ammon. carb., nux vomica and soda bicarb. good treatment, but later have preferred to use pot. nit. in preference to soda bicarb. If the bowels are very constipated, enemas should be given and doses of mag. sulph. Where brain symptoms are acute, an attempt should be made to give a good saline purgative.

In Hutyra and Marek the following is recommended :—

℞ Aloes, 25—30 grammes (about 1 oz.).
Soda bi-carb., 350—400 grammes (about 12 ozs.).
Soda sulph., 75 grammes (about 2½ ozs.).
Gentian, 75 grammes (about 2½ ozs.).
Repeat every eight hours.

It is also there suggested that foods rich in carbohydrates should be supplied, such as boiled potatoes, syrup and molasses, and in paralytic cases to carry out air inflation of the udder. It is remarked that this may bring on muscular twitchings, but is followed by recovery. I have not found it of any use.

In cases where recovery does not begin in a few days, I carry out uterine flushings, using one dram of iodoform, and one ounce of boracic acid in half a gallon of boiling water. This is allowed to cool to body heat, and is injected as in the operation for sterility. The *os* is retracted and the rubber tube passed through. It is then fixed to the nozzle of a rubber enema syringe, having previously filled it up from a short-necked pint bottle. A bottleful is slowly injected and allowed to return if it will, and the injection repeated. The rubber tube with the tapered end will be found a safe and easy one to pass. The injection may be repeated every three to four days if necessary. Only sufficient iodoform to be useful is dissolved.

Excess of acetone may be shown to be present in the urine by adding to it, or to a distillate of it, a solution of iodine and pot. iodide, which gives a precipitate of iodoform. (Legal Reagent.)

Iodine, 1.2.
Pot. iodide, 1.8.
Water, 30.

A percentage of acetone is found in the urine and milk of cattle.

Discussion.

Mr. Wilson (Nantwich), on being called upon by the President to open the discussion, said that in the first place he would congratulate Mr. Hudson on presenting such an interesting paper. The condition was one which was commonly met with by veterinary surgeons in country practice, and he usually treated it as for indigestion. He wondered if these symptoms were present before the cow calved. He was under the impression that the disease was met with not only in winter time, but at any time of the year, and he agreed with Mr. Hudson that exercise was an essential part of the treatment. He had always looked upon the condition as secondary to indigestion, but he would like to know if hæmoglobinuria was associated with the disease, as with this condition there was an acetone smell present. His own cases usually responded to digestive treatment, and he agreed with the treatment prescribed by Mr. Hudson.

Mr. Edwards (Mold) said he had met many cases of the condition cited by Mr. Hudson, and he wondered whether in the *post-mortem* examinations carried out by Mr. Hudson, he had found any fluids of a septic nature, or likely to produce the symptoms. He had always looked upon the condition as being due to indigestion, and usually found that the affected animals would not eat good food, but preferred rubbish. He usually treated as for indigestion and had obtained good results. It would be helpful to a veterinary surgeon if there was some scientific way of diagnosing the condition, or if there was some chemical test which could be applied. The presence of acetone was more or less normal, and might be due to (1) presence of decomposed material after calving, the cleansing not having entirely come away, and (2) lack of tone in the uterus, not allowing it to contract properly. With regard to flushing the uterus, he was not sure that that was a good treatment as, in his opinion, any fluid that was not withdrawn was likely to become septic. He found it impracticable to get all the fluid out, and used pessaries in preference. He added that he would congratulate Mr. Hudson on presenting such an interesting paper, and thanked the Lancashire Division for the invitation to be present at the meeting.

Mr. Holroyd (Blackburn) said that Mr. Hudson seemed to lay stress on the fact that the condition was due to the retention of the second cleansing and that it usually affected second calvers. He would like to know why heifers did not suffer from it. He agreed that the condition was usually met with in summer time, and could not understand why, as cows were in their second cleansing in summer time as well as in winter. It might be put down as being a deficiency disease owing to a lack of vitamins, in winter, but he did not think it had anything to do with indigestion. He was of the opinion that the stomach had nothing to do with the condition, as acetonæmia was not associated with "staggers." With regard to treatment, he had never inflated the udder, but found that the animal soon became normal when turned out to grass. He thought that seven days, as stated by Mr. Hudson, for the duration of the disease was a low estimate. Dealing further with treatment, Mr. Holroyd stated he did not like nux vomica, as it very often led to a nervous condition, especially "staggers," and he preferred to give sedatives. Also, he did not flush the uterus, but always used pessaries. He added that he had enjoyed listening to the paper, and was glad of the opportunity of meeting Mr. Hudson again.

Mr. Hughes (Oswestry) said that most veterinary surgeons present would have recognised the condition described by Mr. Hudson, but had never heard a name for it before. He had noticed persistent constipation with the cases he had treated and usually gave tonics, but he usually found that nux vomica did all that was required to restore the animal to good health. He usually flushed the uterus, but in some cases he used pessaries.

Mr. Lindsay (Liverpool) said that the description of the disease given by Mr. Hudson was exactly as he found it, and he usually recommended that the affected animals be sent to the abattoirs. He thought that in dealing with the uterus Mr. Hudson was adopting the right treatment, and the reason that the condition was more prevalent in winter than in summer was the different conditions under which the cows existed in those seasons. He wished to know if Mr. Hudson diagnosed the condition entirely by the acetone smell.

Mr. Bate (Ellesmere) stated that he recognised the condition as one that he had dealt with for many years, but for which he had never heard a name before. He had always looked upon the condition as an after-effect of parturition, and found that it usually yielded to tonics.

Mr. Edwards (Chester) had also recognised the condition, but had not come across the extreme cases as described in the paper. He had just come from a case in which the cow was rapidly wasting, and he had suspected tuberculosis. The animal had a vaginal discharge, and he was wondering whether this was a case of acetonæmia. He

usually treated his cases with soda bi-carb., with plenty of fresh air and exercise.

Mr. MILLS (North Wales) said he usually treated his cases by flushing the uterus, and he had found pessaries useless on several occasions. Another condition he found with the disease was constipation.

Mr. MANUEL (Crewe) described the condition as a well-known one and he agreed with the greater part of what Mr. Hudson had said about it. In his opinion, not everyone could distinguish the acetone smell, and many cases were missed. The chief reason why the condition was met with most in winter-time was that the smell could be easily distinguished in the shippons, whereas in summer-time the animals were mostly at grass, and thus the smell escaped detection.

Mr. MATTHEWS (North Wales) remarked that very often the condition was put down as being due to a chill. With regard to flushing the uterus, he thought it was difficult to withdraw all the fluid, and he used pessaries in preference. He had enjoyed listening to the paper and hoped that Mr. Hudson would carry on with his research. As a member of the North Wales Division he expressed his thanks to the Lancashire Division for giving him the opportunity to attend meeting.

Mr. WOOD (Hooton) thought there was little doubt that all veterinary surgeons had met with this condition at some time or other, and he believed that flushing the womb was the best treatment. A lot had been said about fluid remaining there, but what if it did ? He did not think any harm was done by that. He occasionally used pessaries, but, at the same time, he never omitted to flush the womb. He did not think the condition was in any way due to indigestion, for, if so, the animal would have more pain, and he wondered whether feeding with roots had anything to do with it. He thought bi-carb. of soda a good treatment, and would like Mr. Hudson to tell him if the discharge was chocolate-coloured and thin, and sour-smelling.

Mr. LLEWELYN JONES (Denbigh) said that from the title of the paper he gathered that the trouble was due to retention of the after-birth, and the name he gave it was auto-intoxication,which conveyed more to him than acetonæmia. He thought that the symptoms suggested auto-intoxication, with the resultant stomach disorders. He did not think the condition had anything to do with indigestion, and undoubtedly the best treatment was to flush the uterus and withdraw all the decomposed material. If any fluid remained, he did not think any harm was done. After flushing the uterus, he usually finished off with a weak solution of copper sulphate, after which one could feel the uterus contract.

Mr. ROBERTS (North Wales) had never heard the name before, but said the condition was well-known. For a long time he had associated the condition with diabetes in man, and that it arose primarily from the pancreas gland. In diabetes there was secretion of acetone and other acids, and he had always used ferric chloride. He thought that Mr. Hudson was wrong in dealing with the uterus in treatment, as undoubtedly the pancreas glnd was the cause of the trouble. The condition, which was not a common one in Wales, was invariably accompanied by coma or some nervous disease. In the last case he had treated the cow was blind, had fits, and could not get up. He examined the urine, and there found the acetone smell.

Mr. CANE (Wrexham) usually adopted the treatment of inflation of the udder and a dose of adrenalin. He also gave formalin, and was satisfied with the results.

Mr. DOWNHAM (Liverpool) asked what the *post-mortem* lesions in the udder and kidney were, and if it was a deficiency disease.

Professor MONTGOMERIE (Bangor) asked Mr. Hudson if he had used adrenalin, and if so, with what results.

The PRESIDENT, Mr. Aldred (Chester) had treated a large number of cases, which always occurred in winter-time. The condition usually affected cows which were not aged, and those that had little exercise. The reason the condition was not met with in summer-time wa s that the animals got plenty of exercise, and the discharge was got rid of more readily than in winter-time. He found cows which had aborted often suffered from the condition, and he wondered whether there was any association in the two conditions. He usually treated with mag. sulph., nux vomica, plenty of black treacle, and much exercise. He was surprised at the good results obtained from simply giving plenty of black treacle.

Mr. HUDSON, in reply, said he might have missed some of the questions raised in the discussion, but he would do his best to cover the whole of the points raised. As he had expected, most of the speakers emphasised the fact that the condition was a well-known one, and commonly met with by most of his audience. Several speakers had stated that they gave tonics in their treatment, and he was of the opinion that any treatment which tended to better health was good. In reply to Mr. Wilson's question with regard to the symptoms being present in cows before calving, he had seen two such cases, in one of which the cow had been calving for about four days, and the condition was bad. It might be due to some change taking place in the uterus, or the absorption of fluid in the blood. With reference to it being associated with hæmoglobinuria, this was a rare condition in his district, but he thought it was quite a different condition. Concerning Mr. Edwards' statement about fluids in the uterus becoming septic, he thought that was unlikely. With regard to a scientific method of diagnosis, it could be carried out, but was quite unnecessary, for immediately the acetone smell had been recognised, the condition could always be diagnosed. With reference to Mr. Holroyd's question regarding the disease affecting heifers, Mr. Hudson said it was a rare condition in heifers, but he had met with an odd case or two. The reason was that they had greater strength, were more active, and had more exercise, but the chief reason was that the heifer did not have that weak uterus that one came across in the cow. The reason the disease was not met with in summer was that exercise promoted a better condition in health, and so affected the uterus. With regard to the statement in the paper giving seven days as the duration of the disease, that was a low estimate, as he had had cases that persisted for two or three months. Several speakers had spoken in favour of and against the flushing of the uterus, but he would certainly not leave septic matter in the womb, especially when it could be flushed out. He noted what Mr. Jones had said about calling the condition auto-intoxication, but he did not think that was anything different from the condition he had described. He had also noted what Mr. Roberts had said, and agreed with him that acetone was a natural element in the system. Concerning cattle in Wales being free from the disease, that might be due to their leading a fresh air existence and getting plenty of exercise. Replying to Mr. Downham, he said he had not found any lesions in the kidney and liver on *post-mortem* ; he found a pinkish fluid with a strong acetone smell in the uterus. So far as the toxæmia was concerned, he was unable to answer that question and he would suggest that Mr. Downham, or any other gentleman well versed in science, should take up the scientific side of this question. Dealing with Mr. Aldred's question, he could not associate abortion with acetonæmia, and with reference to Professor Montgomerie's query, he found 10 c.c. doses of adrenalin very good. Mr. Hudson concluded by thanking his audience for the way his paper had been received.

Stability of Dakin's Solution. If stored in the dark this solution keeps quite well in the tropics ; there are no objections to keeping concentrated solutions. Air does not affect the preparation, but it is quickly decomposed by CO_2 and tropical sunlight.—Goudswaard (*Pharm. Tijdschrift voor Nederlandsch Indie*, 1928, 15, through *Pharm. Zentralh.*, 69, 26, 407).

In the way of pig breeding, Canada, according to the statement of the Rt. Hon. W. R. Motherwell, is aiming in the direction of one breed only, the Large White York.

Animal Scourges: Past, Present and Future.

By E. P. Edwards, M.R.C.V.S., Mold.

The older practitioners of this country can remember the rise, the flow and the ebb of the tide in relation to many epidemic diseases amongst the domesticated animals, many of which are only known by text books or hearsay to the younger practitioners and students of to-day.

Until the outbreaks of recent years, foot-and-mouth disease was but a long past memory, even to the oldest of us; and other dreaded scourges, such as pleuro-pneumonia, "pink-eye" and rinderpest, are gone, and all but forgotten.

The list of diseases which have greatly diminished in importance and frequency, includes rabies, glanders, blackquarter, purpura and the bastard forms of strangles. Conquered by veterinary science, State restrictions, better hygiene, and various other measures, it is safe to say they can never again become factors of prime importance in the animal economics of the country, given a continuance of the conditions.

The present trio of tuberculosis, Johne's disease and contagious abortion constitute a sufficiently formidable list, the first with its grave human menace, and all three owing to the great losses arising from them.

It was stated recently by the famous Liverpool surgeon, the late Professor Thelwall Thomas, that hospital records in many parts of this country pointed to a large increase in the number of cases of actinomycosis in the human subject, and it is certainly my experience that in the district in Wales in which I practised, the incidence of this disease has increased enormously during the last fifteen to twenty years.

It is quite a truism then to say that diseases, especially those of microbic origin, have their "ebb and flow," their "exits and their entrances," they "come into" and "go out of fashion." But it is also unfortunately true that they make dire history whilst they rage, taking heavy toll of life and health, and so the longer the delay in due recognition of their importance, the greater the toll taken.

The increase in a special disease is often insidious, confined in some instances to certain areas, districts, or countries before becoming general, and it may permeate in many directions without its very existence being known in others. It is only when collated knowledge of its prevalence is focussed upon it, that its importance and its epidemic character are recognised, and interest aroused to combat or prevent it, and so the historical side of the evolution of such scourges assumes great importance, if we take a long view. We have our regular statistical reports of the Ministry of Agriculture regarding the scheduled diseases, but of many, such as tuberculosis, Johne, contagious abortion, actinomycosis and others, no authoritative statistics are available, or even perhaps practically possible at present.

The first three diseases just named take first rank in economic importance to-day in this country, but the purpose of this article is to ask whether there is not another, which with ever-increasing strides each year, is bidding fair to enrol itself as a fourth on the malign list? I think there is, and I would name it "seasonal epidemic mastitis," the losses from which must be increasingly serious, and are, in my belief, greatly on the increase.

It is some twenty odd years since I wrote a short article to the *Record*, attempting to describe the disease, pointing out its regular seasonal appearance in my district, and asking if it was known in other parts of the country. The only reply came from, I think, Lanarkshire, and enquiry amongst my neighbouring colleagues gave negative results.

Since that time, outbreaks have occurred with almost unfailing regularity, though varying degrees of severity, during the months of July, August and September (sometimes beginning in June), and about two years ago I again drew attention to it in an article giving fairly full details as they appeared to me, contributed to the *Veterinary Journal*.

Within recent years, to my knowledge it has appeared in those districts adjoining my own, where previously it was not seen, has become prevalent in Cheshire and parts of Lancashire, and I had experience of it last summer in Cornwall and various parts of Devon, and have heard of it in the London area recently. In other parts of the country of which I have enquired, it appears to be unknown, and this may be either that the disease is "regional" as well as "seasonal," or that, so far, it has not extended to them.

Two months ago I had two communications from a Dr. Diernhöfer, of Vienna, in one of which he says: "In recent years there has appeared in various parts of Germany during July, August and September, an epidemic of mastitis similar to that described by you in the *Veterinary Journal*, and I am anxious to obtain material from such cases from your country for research."

There is other evidence of the spread of the affection, and it appears to me that it would be of great value if all practitioners who have experience of it would send to the *Record* a short statement as to:—

(1) How long they have known it in their districts.

(2) Average number of cases seen in a season.

(3) Average dates at which epidemics begin and subside.

(4) Number of fatal cases and general results of treatment.

Such information, if widely contributed, would make it possible to form a clearer idea of its distribution in time and space, its seasonal and possibly regional character, and especially as to whether it is increasing and spreading.

I have already elsewhere described the disease as it appears to me, so will only here repeat the following points as I know them:—

(1) It is seen in yearling calves, dry and barren cows, before and during lactation, and a large proportion are seen before calving.

(2) It is strictly seasonal, late June to middle September being the general period.

(3) The season is the fly season, and the more favourable this is to these insects, the more severe are the epidemics.

(4) Microscopic examination of the mammary discharge, always in my very amateur hands, showed a gram positive organism (either a diplococcus or minute bacillus) in enormous numbers, and never streptococci or other pus organisms.

(*Continued at foot of first column next page.*)

Foot-and-Mouth Disease.

Its Nature, Causation and Incidence.

By Dr. Juan E. Richelet, *Veterinary Representative in England of the Argentine Ministry of Agriculture.*

Considerable perturbation has recently been caused in the meat trade and ancillary quarters by certain scientific experiments in Strasbourg, the result of which engendered a suspicion that chilled meat and other organic matter produced by the sacrifice of livestock during the period of incubation was capable of transmitting foot-and-mouth disease, or *aftosa*, as it is familiarly known in South America.

This dread and mysterious disease has hitherto eluded the efforts of the leading scientists of many nations to discover its origin. It has been known in the United Kingdom since 1839, and reached its highest period of infection in 1923 when, pursuant to the fixed policy of the British Government, 250,000 cattle were sacrificed, involving indemnification of the owners to the extent of some £2,500,000.

Investigations are constantly taking place with a view to discovering the various types of virus, and the British Government has been unremitting in its efforts to discover the cause of the periodical outbreaks of the disease and the manner of its introduction. The Foot-and-Mouth Disease Research Committee, established by the Ministry of Agriculture and Fisheries, is at the moment engaged in inquiry into the subject, and has just issued a third "Progress Report" which, notwithstanding the valiant and indefatigable efforts of the best scientific minds available for the work, is unable to record any perceptible progress. The problem remains as baffling as ever.

Three forms of the disease have already been registered, and are known as types "A," "B" and "C." The painstaking researches of various European scientists, notably Professors Roux and Carré, have established that animals once infected with one type of virus could not become again infected with the same virus for several months, but that they remained susceptible to infection by a third virus, the second attack being as severe as the first. Professor Lebailly affirms that the virus does not persist on the characteristic ulcers formed on the feet of infected animals. Healthy animals inoculated, either subcutaneously or intramuscularly, with fragments of tissue taken from the ulcerated portion of animals formerly affected, suffer no ill effects. Professor Lebailly has also established that, four days after the appearance of the ulcers, animals have already ceased to be contagious to others with whom they were brought into contact.

Some European authorities believe that only one form of aftosa can be contracted by human beings, thus explaining the negligible number of cases observed. It is also significant that during 1926 and 1927 the total number of cases of suspected human infection did not amount to a dozen all told, notwithstanding the fact that thousands of cases occur daily in Europe—principally, of course, on farms; and as the milk of diseased cows is mixed during the period of incubation with the milk of healthy animals, and is therefore consumed by the entire population, it is inevitable that were the disease contagious there would be thousands of cases of infection of human beings.

Although Great Britain, by reason of her determined policy of slaughtering infected animals and compensating their owners, has made the greatest sacrifices in an effort to free her territory from the scourge of aftosa, other great nations are also doing their part. The French Government maintains a laboratory for the study of animal diseases, which is under the direction of the eminent Professor Vallée. Italy has devoted attention to the subject, and her scientists have contributed much useful information in regard to the virulence of the disease in the blood of infected animals. The United States, although her laws forbid the study of the disease within her territories, periodically send abroad commissions to make investigations, under the charge of eminent bacteriologists. Sweden, pre-occupied by numerous outbreaks in her territory, instituted intensified sanitary measures. The Swedish experts arrived at the conclusion that infection was transmitted by human beings, who carried the disease from one centre to another in various ways. Norway, formerly regarded as the only country immune from aftosa, in 1926 experienced various outbreaks. Indeed, the only countries recognised as free at the present moment are Australia (where aftosa is unknown), New Zealand, Canada, Ireland and the United States.

Chilled Meat.

The fact of meat having been chilled is in itself a guarantee of healthy conditions. In accordance with the laws of meat-producing countries, all cattle intended for export are submitted to three successive inspections during a period of eight days immediately before slaughter. The lactic acid produced after the death of the animal neutralises the action of any virus that might be present. The possibility of the preservation of some degree of virulence in the blood and marrow need not cause concern inasmuch as all meat is first drained of blood in order to enable it to keep better, while the internal bones of slaughtered cattle never enter into contact with livestock, being invariably boiled or incinerated under the orders of the Ministry of Agriculture.

The results of protracted and microscopic investigation during recent years afford little justification for the stigma that has suddenly been attached to chilled meat which has been imported regularly into the United Kingdom for more than fifty years. Foot-and-mouth disease has existed concurrently in South America and the United

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My conviction that this disease is on the increase, that it is causing enormous economic loss, and that it deserves the attention of research workers "seeking new worlds to conquer" is my excuse for this epistle.

I believe it is authentically recorded of Henry the Eighth, of amourous memory, that: "Hys Majestye hath an abcesse on hys knee, and walketh very layme."

This was recently translated into modern language as a schoolboy "howler," thus: "King Henry the Eighth had an Abbess on his knee and walked very slowly." How important are accurate historical records!

Kingdom for many years, but it was not until two or three years ago that any credence was given to the theory that meat and cereals were the media of contagion. As a matter of fact, the experiments and research work carried on by the various laboratories during recent years, and the conclusions drawn therefrom, afford no ground whatever for such theories.

The author has had the advantage of discussing the incidence of aftosa with many of the leading scientists engaged in research work. It is noteworthy that they almost unanimously disagree with the fears of British farmers lest the virus of aftosa might be transmitted by frozen meat. They pointed out that if preventive measures were inaugurated in regard to frozen meat, they would also logically have to be extended to cover grain, straw, wool, hides and all other animal products. The transit of passengers between infected and non-infected countries would have to be interrupted, and commerce in general—particularly that of Great Britain—would necessarily be completely paralysed.

Although it is certain that the virus of aftosa remains virulent for a long period in bone-marrow, it is equally certain that numerous other substances exist—although as yet unknown to bacteriologists—that preserve the virus for a far longer period. The recent international conference on the subject in Paris proved clearly the absolute necessity for a scientific basis regarding the contagion and evolution of aftosa, and that no method is efficacious until more accurate and complete knowledge shall have been acquired. Indeed, the *interim* report of the British Committee, to which reference has previously been made, observes that the making of experiments even roughly quantitative, is "so difficult and tedious as to dismay all but those possessed of a stout heart and much patience."

New Methods of Attacking the Problem.

Professor Vallée, the eminent French bacteriologist, informed the author that both he and Professor Roux, of the Pasteur Institute, have racked their brains with regard to experiments concerning aftosa, in connection with which they have employed every means offered by physics and chemistry. Professor Vallée believes that studies and experiments should be carried on simultaneously in all countries afflicted by foot-and-mouth disease, in order to obviate the risk of narrowing down study to one particular type. He feels that the studies of the British Committee need to be confirmed and amplified in the various countries, especially in regard to meat, in order, for instance, to establish clearly the effects of the voyage from South America to Europe upon frozen meat under normal conditions of transport, utilising carcases of animals sacrificed during the incubation period of the disease. Experiments should be carried out both in the country of origin of the meat and in the country of destination on its arrival there. Such experiments, according to Professor Vallée, might be based on the following principles:—

Diseased meat, with its wrappings, should be hung in refrigerating chambers and later placed in contact with cattle that had never suffered from the malady. Persons whose hands and clothing had been infected by handling diseased meat should be placed in contact with cattle

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THE BRITISH ASSOCIATION.

The following reports of those portions of the Proceedings of the Section of Agriculture of the British Association, which we deem to be of particular interest to our readers, are reproduced from "The Times."

The Congress opened at Glasgow, on September 7th, 1928.

British Live Stock.

Great Scope for its Development.

"The Live Stock Industry and its Development" was the subject dealt with by Dr. J. S. Gordon in his presidential address to the section of agriculture. He laid emphasis on the supreme importance of the live stock side of our agricultural industry, stressed the immense scope for development which exists, and indicated the exceedingly rapid strides that can be made in this development by the application of our present knowledge along properly organised lines.

"It is my opinion," he said, "that we can, if we choose, do for stock in the relatively short period of ten to fifteen years what has been accomplished for crops from 1840 to the present time. Unless we bestir ourselves and organise our efforts we shall find our home markets for stock and stock products in the hands of our competitors, who already, by purchasing the best of our pedigree sires, are placing on our markets products which are superior to the great bulk of our home-produced supplies.

"The pressing necessity at the moment is for improvement in our commercial cattle—the great disparity between them and our pedigree stock is little short of tragic. I make no apology for submitting to you that the means towards this end are:

(1) the increased use of pedigree sires, and in this direction the State can with great advantage to itself provide a powerful stimulus by the rapid extension of the premium scheme;

(2) The elimination of the scrub bull, which, to my mind, with human nature as it is, will only be

(Continued from previous column.)

susceptible of contagion. Susceptible animals should be inoculated with the marrow and blood of virulent meat. These experiments, of course, would take place in the country of origin.

The experiments to be carried out in the country of destination should include the transport of a small consignment of chilled and frozen quarters of beef and offals in a specially isolated chamber aboard ship to a French port, leaving the corresponding experiments in the charge of Professor Vallée.

It will be seen from the foregoing that it is worse than useless to dogmatise upon a subject in regard to which the most eminent scientists of the world, after years of intensive study and research, are as yet virtually without information. The better course would seem to be to work for the closest possible international co-operation in the hope of eventually eradicating a scourge the persistence of which imposes upon agriculturists in afflicted countries incalculable harm from every point of view.

accomplished in an effective manner by legislative means.

"It must not be forgotten, however, that as progress is made in grading up our stock by breeding methods, it is imperative that there should be corresponding developments in our knowledge of nutrition, disease resistance and elimination, and in animal genetics. Research in these branches of agricultural science has in the past been starved. The funds devoted to such work are quite inadequate when viewed in the light of the importance of the live stock industry, which in England and Wales alone is worth, approximately, £154,000,000 per annum.

"In connection with this work may I stress the necessity for such research to apply itself more directly than at present is the case to the solution of practical problems. No one realises more than I do the need for fundamental research, or, as it is now called, long-range research, but the agricultural scientist should be, as his designation implies, essentially an applied worker. I venture to think that in setting themselves some of the problems which I have sketched they will meet with sufficient really fundamental problems to keep them employed for many years to come."

The necessity for a comprehensive reorganisation of our methods of marketing stock and stock products was particularly stressed by Dr. Gordon. "If," he said, "it can be accomplished on a voluntary basis, so much the better, but I am convinced that compulsory legislation will eventually be necessary. Much valuable time will be saved by facing this position at once. There is a future, and a bright future, for the live stock industry, but only if we are prepared to tackle the problems which it presents in a live and organised manner. I have endeavoured in this address to summarise my own experience of over thirty years of intimate association with animal husbandry, and to put before you for consideration how, as the result of that experience, I conceive this great national industry can best be developed."

The position of British agriculture during the past fifty years might, he suggested, be summed up by saying that arable farming had declined greatly in face of trans-oceanic competition, while live stock had been maintained in the face of almost equally severe competition from the Argentine and the New World.

In dealing with the important position occupied by the live stock industry within the British Empire, Dr. Gordon said: "The dependence of our home population upon foreign meat supplies may be visualised from the fact that in 1927 over 700,000 tons of beef and mutton were imported from South America alone. It is thus clear that great scope exists for the development of the grasslands of the Empire as sources of meat supplies competing with both home and foreign producers. Hitherto so far as beef is concerned our home farmers have had to face the most severe competition from the estancias of South America. It seems probable, however, that in the future almost equally severe competition may be experienced from the Dominions."

Foot-and-Mouth Ravages.

In the course of his advocacy of an extended research into the diseases of farm animals, Dr. Gordon referred to the ravages of foot-and-mouth disease. He said that during the last nine years (1919-1928) no fewer than 162,214 cattle, 114,679 sheep, 71,636 pigs, and 256 goats had been slaughtered, and the compensation paid to farmers amounted to £5,314,000. This did not by any means cover the full value of pedigree stock, as only commercial prices are paid in compensation, nor did it include the administrative expenses incurred in stamping out each outbreak of this disease. Moreover, when whole herds of pedigree stock were slaughtered, it meant in many instances the destruction of the life work of breeders—work which can never be replaced—and for this loss no sum could ever compensate the breeders or the State.

Here was a field of research which would justify the State in devoting large sums in order to employ the most skilled scientists obtainable to ascertain a means of prevention. When they considered the enormous cost to the nation and the constant danger of losing their best pedigree herds, as well as the possibility of losing their trade in pedigree stock with other countries, the justification for further and immediate research in this direction was apparent.

Sir Robert Greig deprecated the over-emphasising of the livestock industry, which Dr. Gordon appeared to regard as the only hope for the future of British agriculture, its sheet-anchor and backbone. He would not like it to go out from the British Association that concentration upon livestock was the sure hope of the British agriculturist. Sir Robert adduced much evidence which suggested to him that the conversion of good arable land for a concentrated production of live stock would, if it became necessary, be a very grave loss to the productivity of the country.

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Variability of Milk.

Difficulty of Proving Adulteration.

Dr. J. F. Tocher, of Aberdeen, summarised the results of the analyses of milk made throughout Scotland under the Scottish Inter-departmental Committee. He also described some recent investigations into the nature of the day-to-day variations in bulk milk.

Speaking of the success of the Scottish milk recording societies, he contrasted the Scottish with the Engish method. It Scotland the yield and quality were directly ascertained by independent observers, while in England yield at long intervals was recorded by the owner of the herd. The Scottish method was akin to the method practised in Denmark with similar results in selecting good cows both for yield and quality.

There were natural variations in milk arising from feeding changes. The composition of the milk of cows of the same breed and age, at the same stage of the lactation period and under the same feeding and seasonal conditions, had been determined with great accuracy, and it had been found that there were much wider variations than had hitherto been suspected.

The curious fact had been found that good milkers gave milk of greater sugar concentration than did poor milkers—a fact for which there was a physiological explanation. It had been found that Friesians, which were the highest in milk yield, gave the greatest amount of milk sugar during a lactation period, and Ayrshires gave higher proportions of butter fat and of solids other than fat.

Dr. Tocher protested against the practice, still in vogue in certain quarters, of stating that milk contained such and such a percentage of added water when all the analyst knew was the proportion of butter fat and other solids present in the sample analysed. There was a limit to the ability of analysts to say whether it was likely that either water or skimmed milk had been added, because of the known variations in the composition of milk. The present law presumed adulteration where milk contained less than 8.5 per cent. of solids not fat, but he could give examples of milk which showed a deficiency when compared with that presumptive limit. Genuine milk had been proved again and again to contain less than 8.5 per cent. of solids not fat. Indeed, 24 per cent. of all the cows in Scotland gave less than that proportion.

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British Waste of Milk Residues.

A Plea for Centralisation.

Professor R. A. Berry and Mr. A. Macneilage contributed a paper on "The Utilization of Surplus Milk Residues."

They said that the milk sold off the farm in Scotland amounted to about 114,000,000 gallons, and about 88 per cent. of this total milk production of the country was retailed for consumption. Foreign countries made use of the residues in manufactured products and exported the products obtained to this country, for which in 1926 we spent £5,500,000. The imports took the form of separated condensed milk, evaporated milk, condensed sweetened whole milk, milk powder, casein, and milk sugar. The whole milk required to furnish these imports would be about 102,000,000 gallons, or equal to 60 per cent. of the total production of Scotland, or 8 per cent. of the total production of Great Britain. This was estimated to be equivalent to 1s. per gallon on the milk so used, over and above the value received for the primary products—namely, butter and cheese. The amount of wastage in Scotland was estimated to be capable of yielding all the milk powder at present imported and consumed in Scotland, or three times the amount of condensed separated milk imported. The quantities of wastage, however, occurred in relatively small amounts scattered over a number of localities, and no economic use could be made of the residues until their production was centralised.

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Effect of X-Rays on Heredity.

Professor Mavor's Experiments.

Professor Mavor read an interesting paper to the Zoologists on experiments made by subjecting the little fruit-fly, on which most research in genetics has been done, to X-rays.

It has long been known that the germplasm in the reproductive organs of animals is the material carrier of inheritance, but that it is so secluded in the body that it is very difficult to reach by external influences. For the last ten years it has been known that subjection to X-rays might produce sterility, and Professor Mavor and others have been experimenting to see if exposure, short of lethal action, could influence the progeny.

He indicated that they had been successful up to a point. The production of abnormalities, in which the characters of one sex were associated with the sexual organs of the other; and intersexes, in which the characters of both sexes were mingled, were more frequent after X-ray treatment. Various other alterations were produced. It was to be remembered, however, that the introduction of a violent agent like X-rays into the delicate mechanism of the hereditary material was not to be compared with any natural process, and could hardly be expected to have a greater influence on the hereditary tendencies than the work of a train-wrecker would have on the destination of a train.

Grading of Milk.

Discussion at Sanitary Congress.
Present System Declared Unsatisfactory.

(Reprinted from "The Glasgow Herald.")

The grading of milk was discussed at length at the recently-held conference of the Royal Sanitary Association of Scotland at Ayr. A resolution was adopted declaring that the time had arrived when the designations of various grades of milk should be revised and simplified, and a remit was made to the Executive Council to consult with the Board of Health and the Board of Agriculture on the matter.

Mr. Alexander Douglas, veterinary officer for Ayrshire, discussed the present system of grading from the administrator's point of view. Some people, he said, objected to the grading of milk altogether, saying that all the supply should be perfect. That was an ideal that would not be attained in our day, if ever, and meantime he was a believer in grading because it prevented the sale of milk under flowery descriptions which were often meaningless and unjustified, and the educational value of grading both on the public and the producers had been such as completely to justify such a scheme. The grading of milk in Scotland had been based on three factors:—(1) The health of the cows; (2) cleanliness of the milk; and (3) its food value. In Certified and Grade A (T.T.) they had the cows certified free from tuberculosis, while with Grade A there was such regular inspection as would enormously reduce the risk of tubercle bacilli in the milk. Under the heading cleanliness they had again two standards, based on the bacterial counts, with Certified under 30,000 bacteria per c.c., and Grade A (T.T.) and Grade A under 200,000 c.c. There was also the other bacterial standard that in Certified coliform bacilli must be absent in 1/10 c.c., and in the other two grades in 1/100 c.c. Cleanliness was also controlled by score card inspections, which showed that methods were being employed likely to produce milk to comply with these standards. The special food value of the graded milk lay in the fact that it must contain not less than 3.5 per cent. butter fat, and surely a definite standard of that kind was much better than the present presumptive standard for market milk.

A General Improvement.

After three years' operation of the Milk and Dairies Act, with a consequent general improvement of the supply, he thought the time was opportune for a reconsideration of the grades. With the conditions attached to Certified milk he had little fault to find, except that the bacterial standard of 30,000 bacteria per c.c. might well be raised. From reports of local authorities, who had been examining their milk supply, they found that considerably more than half of the general supply compiled with the bacterial standard laid down for Grade A (T.T.) and Grade A milks. If that were so, then such a standard did not justify special recognition so far as cleanliness was concerned. With Grade A (T.T.) they had the guarantee, so far as was possible, that the cows were free from tuberculosis, and there was, therefore, no risk of tuberculous infection from the produce of these cows. The same could not be said for Grade A milk. It was laid down that Grade A herds were clinically examined at least three times a year, but even such a clinical examination was no guarantee that tubercle bacilli might not be found in that milk. If they could not guarantee that Grade A milk was free from tubercle bacilli, and the bacterial standard was no higher than that of more than half of the milk supply, then he could not see that it justified its place among the specially designated milks. Another fault that he had with Grade A milk was its name. Surely if the letters of the alphabet were to be used as designations, the letter "A" should have been reserved for the highest grade. He could see no justification for the third grade receiving a designation which had led many uninformed persons to believe it was the first grade. While he was strongly in favour of the abolition of Grade A in any revision of the present Order, he knew there were powerful influences interested in this grade, and should these be successful in having such a grade retained, then its name must be changed in such a way as to make it clear to the public what exactly the grade represented.

The Bacterial Standard.

With regard to the 200,000 standard laid down for Grade A (T.T.) they rarely found that any of their Grade A (T.T.) producers in Ayrshire exceeded the standard for Certified with samples 18 hours old. If that were so, and he believed it was the general experience in other districts, this fact, together with the generally improved supply, would justify the raising of the bacterial standard for this grade of milk. As a next step he would suggest that the maximum bacterial content permissible for Certified and Grade A (T.T.) milk should be divided by two, making the standard for Certified 15,000, and the standard for Grade A (T.T.) 100,000.

Referring to pasteurised milk, Mr. Douglas said in this country for many years dairymen had been treating milk in a way that could not be regarded as efficient or effective pasteurisation. The object of such treatment was simply to prolong the life of such milk, and the treatment was not in any sense conceived as a public health measure. In these circumstances it was well that the Milk Order of 1922 defined pasteurised milk. The bacterial standards for pasteurised milk had undergone various changes since the Order was first introduced. The standard for coliform bacilli originally intended had disappeared, and it was not now necessary to show the day of pasteurisation on the container, so that pasteurised milk might contain three times the number of bacteria permitted in the highest grade of raw milk and might be contaminated with coliform bacilli, while before pasteurisation it might have contained any number of bacteria. Surely such a milk was a poor substitute for Certified or Grade A (T.T.) milk, and surely such a standard was substituting pasteurisation for cleanliness. Concluding, Mr. Douglas said that with regard to the possibility of definitely grading all milk the time had not arrived for such a drastic step. Much of the improvement of the milk supply of the United States had been wrought by the industry itself, and evidence was not lacking at home that the milk industry was beginning to realise the advantages it would derive from an improved supply. In that lay their greatest hope of the future.

Tuberculin Testing.

Mr. A. W. Montgomerie, Lessnessock, Ochiltree, ex-president of the Aryshire Cattle Herd Book Society, said if all the present dairy by-laws were acted up to all milk produced should come up to the required standard for Grade A milk, except possibly the percentage of fat, which might occasionally be under the required standard from certain strains of cattle. Under the circumstances the designation Grade A should be abolished altogether. Tuberculin testing should be taken up by the State in earnest.

Mr. Findlay, Glasgow, said that 80 per cent. of Glasgow's ungraded milk supply was subjected to pasteurisation. He suggested that local authorities should be empowered to enact that no ungraded milk be sold within their area, and that milk containing more than 500,000 organisms per c.c. be deemed contaminated or impure.

Replying to the discussion, Mr. Douglas said many people expected the Tuberculosis Order to accomplish a great deal. It was simply touching the fringe of the question. It would take many years to eradicate tuberculosis from our herds.

Individual Milk Glands.

"Dr. Proks, of Prague," says *The Farmer and Stock-breeder*, "has confirmed the fact that each mammary gland of a cow's udder may secrete different quantities of milk, of which the composition often varies considerably. In a paper he stated that the greatest difference is to be found in the water and fat contents, but the albumen and lactose contents also differ greatly. Even with regard to the ash content, this variation may be noted. Therefore it follows that the specific weight also differs.

"In order to ascertain how far this individuality is also shown during the formation of the fat content, he took samples of the milk from each of the different glands of four cows. The quantity of milk obtained from the different teats varied in the case of each cow. Also, the specific weight of the milk of the different glands often differed considerably. The greatest difference in the milk of the various glands of the same udder was shown in the water and fat content.

"The results proved that the mammary glands of the same udder showed individuality, not only from the anatomical point of view, but also from the point of view of the physiology of the milk formation, and this individuality not only concerns the quantity of the component elements of the milk, but also the composition of its fat-content."

Royal Sanitary Institute Meat Inspection Courses.

The next courses of training conducted by the Royal Sanitary Institute for Meat Inspectors, commence (as advertised in this issue of the *Record*) on October 12th. Syllabuses of the lectures and of the examinations, containing full particulars, are obtainable from the Secretary of the Institute, 90 Buckingham Palace Road, London, S.W.1.

The Veterinary Record

22nd September, 1928.

NATIONAL DOG WEEK.

Throughout this week our faithful friend the dog is to be an object of national interest and concern. Ubiquitous as he has become, knowledge of his health-maintaining requirements, particularly in the matter of diet, is still conspicuous by its absence amongst his owners, while the exhaustive study of some of the commonest ailments which afflict him is recognised as one of the most pressing obligations of veterinary science.

A horse-loving nation we still may be; a dog-loving nation we undoubtedly are, and not only the profession but the community will be glad that those who now guide the destinies of the Royal Veterinary College should have inspired a great popular effort to make universal the possession of a more adequate measure of knowledge of the care of the dog in health, and to establish a well-equipped and endowed centre for the study of canine diseases.

The great assistance which members of the profession can render during the next few days in furthering the efforts of the National Dog Week Council is self-evident. We have no doubt that they will co-operate whole-heartedly with the local organisations which have been established in bringing to a successful issue the many interesting features of the Week which have been arranged.

"In the course of National Dog Week, which opens on Sunday next," says *The Observer* of September 16th, "people will not be asked to keep more dogs, but to take proper care of those they have. No propaganda is necessary in order to make the British race a nation of dog lovers, for the canine population of England and Wales is nearly three and a half millions.

"The central motive of dog week is to ensure correct and kindly treatment of all dogs; to tell how they should be housed, tended and educated; and to impress upon owners their responsibility to the community. An influential Council has been at work for some months in preparation for the event, having its headquarters at 37-38 Temple Chambers, Temple Avenue, E.C.4. Captain H. E. Hobbs is the hon. general organising secretary, and Professor Hobday, Principal of the Royal Veterinary College, is the chairman. Over 700 committees have been set up in various parts of the country, and help is being given by the pulpit, Press, rotary clubs, medical officers of health, educational authorities and others.

"On Sunday next sermons will be preached in many Churches; flag days, dances, and other forms of entertainment are being organised for the purpose of raising money, which will be given to the Royal Veterinary College towards the establishment of a chair of canine pathology. A film containing twelve favourite dog stars is being shown at 1,000 cinemas, and visitors are asked to participate in a ballot indicating which they consider to be the most popular."

CLINICAL AND CASE REPORTS.

Fractured Cervical Vertebra.

By R. W. MELLARD, Major, R.A.V.C.

I consider the following case of compound fracture of the first cervical vertebra (atlas) worth recording, owing to the unusual clinical symptoms.

Whilst on manœuvres on Tuesday evening, 28th August, 1928, a troop horse belonging to the Royal Horse Guards reared up and fell over backwards, injuring the neck in the region of the first cervical vertebra. After the accident the horse marched eight miles into camp.

On arrival in camp, she was inspected by me—there was a slight painful swelling on either side of the neck just behind and below the ears. The mare carried her head poked out, was a little stiff when moved and showed acute pain if the neck and head were manipulated.

She was unable to swallow but made frequent attempts to eat and drink.

Next day the symptoms remained much the same, the mare constantly keeping her lips in water and unsuccessfully attempting to drink and occasionally to eat bran or hay. The tongue appeared to be paralysed.

On Thursday, two days after the accident, the tongue was markedly paralysed and about three inches of the tip was constantly hanging out of the mouth. The mare could walk fairly well except for a noticeably stiff carriage of the head and neck.

Friday—The mare showed very similar symptoms, constantly attempting to drink and eat without success and the tongue still protruding from the mouth.

Saturday—Tongue protruding a little further out of the mouth and showing signs of gangrene. Swelling in region of neck remained unaltered and there were no other symptoms of loss of control except the paralysis of the tongue.

Mare was destroyed on Saturday afternoon, four days after the accident. Immediately before destruction she walked easily about 300 yards from camp.

Post-mortem Examination. This showed the first vertebra (atlas bone) to be broken into about five pieces, the body or base of the vertebra being fractured longitudinally.

The case appears of interest by reason of the following points:—

1. The long distance the mare walked with a compound fracture of the vertebra.
2. Freedom and control of movement in all limbs.
3. Progressive paralysis of the tongue and gangrene of same and the consequent failure to drink or swallow food.

A Striking Case of Generalised Melanosis in a Bullock.

By E. J. H. SEWELL, M.R.C.V.S.,
Senior Assistant Veterinary Inspector,
City of Edinburgh.

Subject. A three-year-old red roan bullock in prime condition and clinically in perfect health. Animal exposed for sale and passed for slaughter. Dead weight 6 cwt.

Autopsy. The dressed carcase gave the appearance of the neck, pleura, peritoneum, and inner aspect of thighs having been lightly washed with diluted black ink. Viewed from the dorsal aspect a similar appearance was noted over the withers, forelegs and loin. These latter areas showed corresponding markings on the inner surface of the hide.

The following was the distribution of melanotic deposits throughout the body :—

Posterior pharyngeal glands—capsules affected, giving the glands an exterior appearance of black balls. Tongue—musculature streaked—deposits in substance of circumvallate papillæ of left side. Soft palate—diffuse. Nasal septum. Periosteum of mandible. Right and left eyes. Larynx. Trachea—outer and inner aspects of the first five cartilages. Œsophagus—outer coat. Cervical muscles—fascia streaked. Diaphragm—musculature affected. Aorta—outer coat, for a few inches. Pleura and costal periosteum. Lungs—substance affected. Bronchial and mediastinal lymph glands—substance affected. Liver—capsule ; and lining of bile ducts. Hepatic lymph glands—substance. Kidneys—capsules diffusely melanotic. Suprarenals—substance. Renal fat—melanotic granules. Abdominal musculature. Scrotal fat—melanotic granules. Groove of penis. Iliac arteries. Gracilis and sartorius muscles. Ligamentum nuchæ. Interspinous ligaments. Vertebræ and ribs. Meninges of brain and spinal cord.

The entire carcase was condemned.

A Cystic Mole.

By J. N. J. Hagan, M.R.C.V.S., Kirkham.

On the afternoon of August 19th I was called out to a calving case.

On arrival, I found the cow down in a shippon with a man holding her head, and the owner struggling to return what he took to be a prolapsed uterus.

The animal was straining powerfully against the misguided efforts of the almost exhausted owner, and was expelling, faster than he could hope to return, what was obviously not uterus or fœtal membranes, but an apparently endless double sheet of strong thick membrane. The owner was with difficulty prevailed upon to leave go of the mass, and the cow got on to her feet.

A considerable quantity of the material had now appeared and the whole of it was easily withdrawn. It was judged to weigh about 60 or 70 lbs. On examination I found the left horn of the uterus occupied by a normal calf with its membranes, and the right horn distended as if it had just been occupied by a calf. The calf was easily delivered, and pessaries inserted.

I now examined the foreign material and found that it had a mucous side and a serous side. The later was studded with fatty masses varying in size from that of a marble to that of an ostrich egg. The whole membrane was in a healthy condition and had obviously lined the right horn of the uterus.

On enquiry I found that the animal was six weeks before her time, and twins were expected on account of her abnormal size. The owner saw her in a field the day before, and lying on the ground near her was a thin membrane and a large quantity of fluid ; he noticed that the cow was considerably reduced in size.

The next day she was brought into a shippon and was seen to be expelling what the owner mistook for the uterus, and I was sent for. I came to the conclusion that what had been expelled in the field were the dead embryo, embryonic sac and fluid contents, and that what I removed was a collapsed cystic mole.

The cow is doing well now, the owner does not propose to calve her again, although she has previously had two normal calvings.

Abstract.

History Leading up to the Diseases of Animals Acts.*

No organised attempt at the control of contagious and infectious diseases in animals was made in Great Britain until 1848, when the prevalence of sheep-pox, introduced from the Continent, led to the passing of two Acts of Parliament under which that disease and the cattle plague outbreaks of 1865 were dealt with. These Acts proved insufficient to prevent the spread of cattle plague throughout the country until the Cattle Diseases Prevention Act, 1866, was passed ; this required the compulsory slaughter, with compensation, of all affected animals, and empowered the slaughter of animals in contact therewith. This measure succeeded in eradicating the disease by September, 1867, and the experience of these two diseases led to the passing of the Contagious Diseases (Animals) Act, 1869, which conferred extensive powers upon the Privy Council and Local Authorities to deal with animal diseases, including pleuro-pneumonia and foot-and-mouth disease, as well as cattle-plague and sheep-pox. The Act of 1869 also imposed the first effective restrictions on the importation of animals from certain foreign countries where disease was prevalent. Agricultural opinion was not, however, favourable to the full exercise of the powers conferred by the Act of 1869, and the country had to experience two more outbreaks of cattle-plague (1872 and 1877), and very extensive outbreaks of foot-and-mouth disease and contagious pleuro-pneumonia of cattle, before the Act of 1869 was revised by the Contagious Diseases (Animals) Act, 1878, which laid the foundation for the methods now in force. The Act of 1878 and its subsequent amendments were consolidated by the Diseases of Animals Act, 1894, which, with its nine amending Acts of 1896 to 1927, confers the powers upon which State action at the present time is based.

A Weak Link.

There are stringent regulations governing the cleaning and disinfection of markets, lairages, cattle boats, cattle trucks, and the like. These are aimed at the control of disease and are generally recognised to be necessary and very useful. Near many markets, however, and perhaps more particularly in the North of England, there are private premises where stock are sent to pass the night or a couple of nights before or after market. The traffic through these is very similar to the traffic through a market, yet they are outside the scope of the regulations. Cleaning is perfunctory and often at long intervals. Many of the buildings are dark and ill-ventilated, and disinfection is unknown. They raise a difficult problem, but surely not an unsurmountable one. While such conditions remain they do much to render nugatory the precautions taken in markets. It is a weak link in the chain for controlling disease, and should be capable of being strengthened.—*Farmer and Stock-breeder.*

* *Journal Min. of Ag.*, August 24th, 1928, Vol. xxxv.

DIVISIONAL REPORTS.

Midland Counties Division.*

Summer Outing.

The quarterly meeting of the Midland Counties Division N.V.M.A., on Thursday, August 23rd, was more of a social than of a business character. It was ladies' day, and the usual agenda was reduced to the narrowest limits. A motor drive in Worcestershire was the best part of the programme, and as the weather left nothing to be desired a most enjoyable time was spent.

Most of the company started from the Grand Hotel, Birmingham, at 10 a.m., but others joined in *en route*. The party consisted of the following:—Mr. J. Cormack, Mr. and Mrs. H. J. Dawes, Mr. H. W. and Miss Dawes, Mr. and Mrs. H. B. Hiles and Miss Hiles, Mr. and Mrs. Steele-Bodger, Mr. L. C. Tipper, Mr. and Mrs. G. Banham, Mr. G. F. Banham, Mr. J. Whyte, Mr. and Mrs. Scott Bowden, Mr. J. H. M. Hughes, Mr. J. Baxter, Mr. O. V. Gunning and Mr. Gunning, Sen., Mr. J. Martin, Mr. and Mrs. A. B. Forsyth and Miss Forsyth, Mr. and Mrs. W. H. Brooke and Miss Brooke, Mr. and Mrs. T. H. Hobson, Mr. and Mrs. Townson and Mrs. Sturton, and Mr. J. N. Peatt.

The outward drive was by way of Bromsgrove, Droitwich, Worcester and Malvern to the Park Hotel, Colwall, where lunch was partaken of. Except that the President (Mr. Cormack) submitted the toast of "The King," there was no speech-making, and there was an immediate adjournment to an adjoining room, where the business meeting was held.

The Business Meeting.

The President occupied the chair, and arrangements for the next meeting were first made by members of the Council present. It was agreed that it be held at Birmingham, and that Professor Reynolds be invited to perform an operation in a case of fistulous withers, failing which the President and Hon. Secretary were jointly empowered to prepare an agenda.

Apologies for absence were received from Professor Hobday, Messrs. Brain, Anthony, Parsons, Over, Ringer, Green, Austin, Spencer, Heelis, Banham, Machin, Hughes, Franklin, Maguire, Sharp, Leader, Martin, H. Tudor Hughes, G. Martin, Phillips, Grasby, Reynolds, McLaughlan, Jones, etc.

Nominations and Election of New Members. The following gentlemen were nominated for membership of the Division: Mr. J. N. Peatt, Marsh House, Leominster, and Mr. W. F. McConnell, St. Cuthbert's, Ledbury.

The following gentlemen, duly nominated at the previous meeting, were now formally elected members of the Division: Mr. J. H. M. Hughes and Mr. J. Baxter, both of the City of Birmingham Veterinary Department.

Mr. S. Sharp, of Moseley, who had also been nominated, wrote requesting that his name be withdrawn, as he was leaving the district, and this was agreed to.

International Dairy Congress. Mr. Steele Bodger was called upon to give a report as delegate to the recent International Dairy Congress.

He said he would like to withhold a detailed report until the next meeting, as the time at their disposal that day was so short. Their Division had the distinction of being the only one to send a delegate. He did not think there was a single subject that was not of interest to them as veterinarians. Medical men and sanitary inspectors were there in large numbers, but not more than thirty veterinary surgeons were present. Strange to say, the purely veterinary section was not what interested him most. He hoped to tell them more at the next meeting.

Reminiscences of a World Tour.

A feature of the outing was an address by Mr. Tipper on the reminiscences of his recent world travels. Once aboard a liner, said he, the feeling of getting away from every-day anxieties and worrying routine produced an immediately beneficial effect. There came a complete change in the daily life, meals, accommodation—all came without thought or consideration. There were amusements of all kinds for old and young. They had games, sports, tennis tournaments, fancy dress balls, and many other attractions, showing there need not be a monotonous hour, provided the weather behaved itself. And during his 50,000 miles travel on sea and land it was on the whole fine, whether in South Africa, Canada, Egypt, the Malay States, China or Japan. When on the sea they were on the look-out for sharks they never saw. The Flying fish were one of the great sights. When flying in large numbers they looked like a flight of swallows. They had an amusing experience at Port Said, where they came across a number of most clever native conjurors, who addressed individual members of the party as "Lady Asquith," "Mr. Lloyd George," and by various high-sounding titles. It was very remarkable to find men in a foreign land with so much knowledge of affairs in England. Another interesting sight was the crowd of black boys who dived for money. Their diving was marvellous. On his South African trip he landed at Cape Town and interviewed the Minister of Agriculture, and on the following day he spoke at the luncheon given at the Rose Bank Horticultural Society's Show, after which he was invited by the Governor (The Earl of Athlone) to accompany him, General Smuts and Sir Thomas Smart, round the show grounds.

Mr. Tipper went on to describe his tour through the Colony and his visit to the Victoria Falls. Giving figures of the Falls and the Niagara Falls, Mr. Tipper said the volume of water and the depth of the Falls of Victoria were far greater than Niagara. Both had their own special picturesque features.

Not the least pleasant feature of the travels was the kindly reception by members of the profession in all parts, and in Canada he met veterinary surgeons from all parts of the world. At Hong Kong, a former assistant of Mr. Tipper, Major Hogg, and Mrs. Hogg were most hospitable.

The President proposed a vote of thanks to Mr. Tipper, for the very fascinating story he had told them.

Mr. Howard Dawes, in seconding, said Mr. Tipper was a man of boundless energy and it was a pleasure to feel

* Received on August 30th.

that he always had a warm corner in his heart for that Society.

Mr. TIPPER, acknowledging the compliment, said he had tried to play the part of a missionary of Empire, and the astonishing thing was to discover how very little we at home knew about people at the other side of the world.

The meeting then terminated, and the party spent the next half-hour inspecting the beauties of Colwall, before continuing the drive round the beautiful Malvern Hills to the British Camp Hotel. The best part of two hours was spent here, amid some of the most delightful scenery in the country, and after tea the drive was resumed. It was two-and-a-half hours later when Birmingham was reached at a quarter-past eight, the return journey being by way of Kidderminster.

H. J. DAWES, *Hon. Secretary.*

Kenya Veterinary Medical Association.

ANNUAL MEETING AT KABETE.

The Third Annual General Meeting of the Association was held at Kabete Veterinary Research Laboratory, on January 3rd, 1928, when the following Fellows signed the attendance book :—Messrs. Walker, Creery, Bradshaw, Beaumont, Hudson, Daubney, Mulligan, Emerson, Dixon and Scott-Little.

Apologies for non-attendance were received from Messrs. Hale and McCall.

The minutes of the Second Annual General Meeting were read and confirmed.

No report was available from the Council, but Mr. Walker gave a resumé of its activities.

The accounts of the Association were considered, and the balance sheet was passed.

Mr. HUDSON proposed, and Mr. CREERY seconded, that the sum of 100/- be forwarded to the Victoria Benevolent Fund. This was agreed to.

A letter was read from the N.V.M.A. of Great Britain and Ireland suggesting that the Kenya Association might like to give a link for the official chain of office. Mr. DAUBNEY proposed, and Mr. DIXON seconded, that the sum of 40/- be forwarded to the Parent Association for this purpose. The proposition was carried unanimously.

Mr. R. W. Mettam was proposed and elected a Fellow of the Association.

ELECTION OF OFFICERS.

The following officers were elected for 1928.

President.—Mr. H. H. Brassey Edwards.

Vice-President.—Mr. Walker.

Secretary.—Mr. R. W. Mettam.

Mr. Beaumont and Mr. Dixon were elected members of Council for 1928. (Messrs. Daubney and Dixon had completed their year of office.)

The meeting then concluded with a vote of thanks to Mr. Walker for occupying the chair.

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FIFTH ORDINARY GENERAL MEETING.

This was held following the above, with the Vice-President in the chair and the same members present.

Apologies for non-attendance were received from Major Brassey Edwards and Messrs. G. McCall, Hale and Wheeler.

The minutes of the Fourth Ordinary General Meeting were read and confirmed.

Arising out of the minutes, (*a*) the question of the Pan-African Veterinary Conference was discussed, and in view of the fact that no further communication had been received in reply to the last letter of the Association asking for proposals, the question was left in abeyance for the time being ; (*b*) no further action was taken on the question of salaries.

Mr. W. B. C. Danks and Mr. W. Fotheringham were proposed and seconded as members of the Association.

Mr. R. W. Mettam read his paper : " An Introduction to the Study of Poisonous Plants of Kenya." The paper, which was much appreciated, was then discussed, the opening being made by Mr. McDonald, the Mycologist of the Agricultural Department. The following took part in the discussion : Messrs. Bradshaw, Daubney, Walker and Scott-Little.

The arrangements for the Sixth Ordinary General Meeting were left in the hands of the Council. It was, however, suggested that Mr. Walker should bring forward a paper on " Rinderpest." Mr. Walker said that he would endeavour to do so.

Reference was made to a report in the local press of a statement to the effect that the training given for the M.R.C.V.S. was not such as to ensure adequate capabilities to cope with the overseas veterinary questions. This was discussed, and it was decided that the Council should deal with the matter.

There being no further business, the meeting then terminated with a vote of thanks to the Vice-President for presiding at the meeting.

R. W. M. METTAM, *Hon. Secretary.*

Lancashire Division.*

MEETING AT CHESTER.

A General Meeting of the Lancashire Division, N.V.M.A. was held at the Blossoms Hotel, Foregate Street, Chester, on Friday, July 20th, 1928.

The chair was taken by the President, Mr. H. H. Aldred, and the following members were also present: Messrs. J. Spruell, J. Holroyd, J. Hughes, A. Munro, J. H. White, T. Wilson, E. Greenway, T. McGhee, H. T. Matthews, A. W. Noel Pillers, J. Storrar, F. B. Edwards, P. Manuel, J. Hughes, A. H. Leyland, P. T. Lindsay, H. L. Torrance, K. D. Downham, T. C. Howatson and E. F. Wood.

Visitors.—Messrs. H. Llewellyn Jones, J. Holt, R. F. Montgomerie, R. Hudson, W. Hall Savage, H. Morris, J. E. Mills, W. Hughes, T. W. Hughes, C. Cartwright, J. H. Wynne, H. V. Hughes, G. M. Roberts, A. Bate and J. C. Rowlands.

Apologies for unavoidable absence were received from : Colonel Brittlebank, Professors Share-Jones and Hobday and Messrs. G. H. Locke, J. H. Wright, J. H. Carter, H. Holroyd, T. Eaton Jones and R. Hughes.

In opening the meeting, the PRESIDENT said that this was the first meeting the Division had held at Chester for

* Received on September 10th.

some years, and they had thus taken the opportunity of inviting the members of the North Wales Division. They were very pleased to see so many of their North Wales confrères present and it gave him great pleasure to welcome them at the meeting that afternoon.

The minutes of the last meeting were taken as read.

Nominations.—Messrs. J. K. Shaw, M.R.C.V.S., D.V.S.M., Wallasey, and J. B. McLean, M.R.C.V.S., Malpas, were nominated for membership of the Division.

The PRESIDENT then called upon Mr. Richard Hudson, F.R.C.V.S., to give his paper on "Acetonæmia and its Association with the Retention of Uterine Fluids."

[Mr. Hudson's paper, and the discussion which followed, are reproduced at the commencement of this issue of the *Record*.—Ed.].

A vote of thanks to Mr. Hudson, proposed by Mr. NOEL PILLERS and seconded by Mr. WHITE, was carried with acclamation.

After the meeting, the company adjourned to the yard of Mr. J. Storrar, and examined live specimens exhibited by Mr. W. Kendrick, Tarvin.

Mr. DOWNHAM exhibited the following specimens, which were preserved and mounted, the pathological conditions showing :—

Contagious epithelioma (fowl pox).
Caseous lymphadenitis.
Tuberculous mesenteric glands from a cat.
Swine fever ulcers in the intestines of a pig.
Foot-and-mouth disease lesions in the tongue and teats of cattle.
Verrucose endocarditis from a case of swine erysipelas.
Actinomycosis in the lung of a cow.

JOHN SPRUELL, *Hon. Secretary.*

Veterinary Medical Association of Ireland.

MEETING IN DUBLIN.

DISCUSSION ON MR. E. MCSWINEY'S PAPER.

A general meeting of the Veterinary Medical Association of Ireland was held in the Veterinary College, Dublin, on Wednesday, August the 8th, 1928.

In the absence of Mr. Cosgrove, the President, Mr. A. F. O'Dea (a Vice-President) was unanimously voted to the Chair. There were also present Messrs. Howard, J. Fitzgerald, P. F. Dolan, F. J. Daly, J. S. McCann, R. J. Nolan, E. W. Little, S. O'Donoghue, S. Conway, Professor T. G. Browne, J. Doyle, J. F. Healy, E. V. Kelly, Professor Craig (who acted as Hon. Secretary in the absence of Professor O'Connor), and A. E. O'Neill (Visitor).

The minutes of the last general meeting, having been circulated, were taken as read and signed.

Apologies for non attendance were received from Messrs. Cushnahan, Purdy, J. O'Carroll and E. J. McSwiney.

A letter of resignation from Mr. Purdy was read, in which he stated that, having now retired from the Department of Agriculture, he was going to reside in England. It was agreed that Mr. Purdy be asked to remain as a corresponding member of the Association.

MORBID SPECIMENS AND CASES OF INTEREST.

Professor CRAIG exhibited two specimens :—

1. *Abomasum of a lamb*, four months' old, affected with *parasitic gastritis*. The mucous membrane showed very slight changes and these chiefly in the form of little red spots over the folds. In the contents there were enormous numbers of *Ostertagia circumcincta* and a few specimens of *Hæmonchus contortus*. Professor Craig stated that in his experience in this country the smaller strongyles, such as ostertagia, were mainly responsible for parasitic gastritis and usually only a few hæmonchus were found in association as in this case. He also demonstrated a method of detection of the nematodes which might readily be adopted in the field at a *post-mortem* examination. A small quantity of the ingesta from the abomasum was mixed with water in a petri dish. When viewed from above on a dark background, the small worms were seen as fine hairs and recognised as strongylidæ when placed on a slide and examined with a hand lens. In view of the slight changes in the mucous membrane one could only explain the symptoms by the agency of toxins formed by the worms. This specimen was taken from one of three lambs which had died recently in a flock of fifty, and ten were also ill. Outbreaks of this kind had been appearing yearly on the farm. The chief symptoms were loss of condition and in some lambs only diarrhœa. "Only among young sheep," said the exhibitor, "are losses sustained from this cause, although adult sheep may harbour the worms in moderate numbers, acting as carriers and infecting the land with worm eggs. For this reason the adult sheep are a source of danger to their lambs. As regards treatment, the South African remedy against the *Hæmonchus contortus* appears to be specific. This consists of a mixture of copper sulphate and sodium arsenite, the dose being regulated according to the age of the sheep. The mixture is not nearly so effective against the smaller nematodes, and indeed no absolute specific has yet been found. Copper sulphate or copper sulphate and tobacco are used. In any cases all the sheep must be treated whether showing symptoms or not. For the prevention of losses and even for the eradication of the worm infestation from the land monthly dosing is of great importance. Drainage must be improved where possible and the application of quicklime to the land is also useful. The infection may persist on the land for one or two years or perhaps longer."

2. *Actinomycosis of the lungs from a bovine, without any lesions elsewhere.* These cases were probably more frequent than was generally suspected and he had examined a number from the abattoir and also some forwarded by practitioners. In this particular instance the lung lesions were very extensive. The animal was suspected of tuberculosis, it was in very poor condition and had a chronic cough. *Post-mortem*: the lungs only were affected and a large proportion of both lungs, particularly the apical and cardiac lobes, were invaded. The surface was rough and lumpy and the serous membrane thickened. The lung over the affected areas was solid and appeared to be composed of tumour-like growths, from a pea to a pullet's egg in size, separated from one another by thick strands of fibrous tissue. In section the growths were soft, yellowish grey in colour, and were studded with little yellow points.

The method of infection would appear to be by inhalation.

Mr. HOWARD enquired whether, in cases of actinomycosis in the lung, one would expect discharge. He had drawn attention several times to the need of research in actinomycosis. He sent Professor Craig, some time ago, a case of it in the vulva of a cow. He had met actinomycosis in almost every part of the animal, often without symptoms. The vulva was affected, otherwise the animal was in perfect health. He suspected actinomycosis on account of the hardness of the swelling.

Mr. DOLAN said that actinomycosis of the lung was much more common now than it was years ago. The interesting point to him was not so much in identifying actinomycosis but in proving it is not tuberculosis in the living animal. If the tuberculin test was applied and the animal reacted it put one in an awkward position. He would rely on the sputum test if the animal did not react. The first thing to be done was to examine the sputum.

Mr. HEALY asked whether actinomycosis of the lung and actinobacillosis were the same. He had a case of enlargement of the jaw where the owner treated it with iodide of potassium; only the tissue was involved, not the bone.

Professor CRAIG said it was not easy to determine the difference by clinical methods. Actinobacillosis affected more commonly the soft tissues and lymphatic glands, but the only certain method of differentiation consisted in the microscopic examination of pus or a piece of tissue from the lesions. In films from actinomycosis a gram-positive mycelium could be demonstrated, while it was absent in actinobacillosis.

Mr. MCCANN mentioned his experience in the treatment of a case of poll-evil, in which he had used a cupping glass (in support of the De Bier method of treatment). This was the case of an animal not sufficiently valuable for operation, and as the owner had only been offered £2 for the purchase of the animal he brought it in. Mr. McCann examined the animal with a probe which went 3½in. into the sinus. He got a breast cupping glass (exhibited), clipped the hair round the opening of wound, applied vaseline round the rim of the glass cup and applied it once daily for three or four minutes. It sucked up discharge and blood. He got the owner to do this, but warned him, if the skin showed darkening, to stop doing it for a time. He saw the animal in about a month greatly improved in condition; the wound was closing up and was now only about 2in in depth. He continued treatment and the next time he saw the animal it was apparently cured. Mr. McCann also showed an elastic web bandage which he used for purposes of producing hyperæmia in diseases of the foot and leg as recommended by De Bier, and with which he had got good results.

Mr. HOWARD told of a cob (and hoped to produce the photograph at the next meeting) which received a small wound about two inches deep from a cow's horn, just midway between the stifle and hip. The animal did not go lame but continued working and the wound healed up, being treated with iodine. After the wound was healed the animal began to keep the leg off the ground and if forced to move would hop on three legs. After being forced to move it would just touch the toe to the ground and immediately on stopping would raise the foot about 1ft. from the ground. The animal was fat and in good condition. He mentioned the case to Mr. Healy and they decided to apply a weight to the foot to induce it to stay on the ground when at rest. This was done and weight applied for a few hours daily. After a while she began to put it on the ground and there was now some improvement. She walked fairly well when made to walk, but raised the foot when at rest. The wound had perfectly healed without any sign of it and he wondered if it were possible that the puncture from the horn injured a nerve.

Professor BROWNE: A wound *behind* the femur would affect the sciatic nerve.

Mr. DOYLE suggested it might be an injured tendon which the application of the weight cured.

Mr. HOWARD said that while the wound was open there was no lameness, but when the wound healed the lameness appeared. The animal walked fairly well, but when stopping immediately raised the leg. He would watch the case and report progress to the next meeting.

REPORT OF DELEGATE TO THE WORLD'S DAIRY CONGRESS, 1928.

Mr. DOLAN, as Delegate to the World's Dairy Congress, 1928, then gave his report, as follows:—

As the representative of the Veterinary Medical Association of Ireland, I attended the World's Dairy Congress, 1928.

The Congress commenced on the 26th June and officially ended on the 12th July. It consisted of four sessions—London, June 26th to 30th; Reading, July 2nd and 3rd; Scotland, July 4th to 8th and the Royal Show, July 10th to 12th.

After the Congress had ended the delegates had a selection of tours to different parts of England and one to Northern Ireland and the Irish Free State. The last-named tour commenced on the afternoon of the 12th July from London and ended in Cork on the afternoon of July 20th.

The Congress was carried out on a large scale, and about 1,700 persons were registered as Official Association or Member Delegates. As many as 44 countries were represented.

The Congress might be divided into three parts:—

1. Papers and subsequent discussions.
2. Ths practical aspect of dairying, such as visiting farms, dairies, pasteurisation plants, etc.
3. Social side.

It would be impossible to-night to give even a general survey of the papers—it would take up too much time. The papers numbered over eighty and I have most of them here and I now give them into the charge of the Hon. Secretary, from whom they can be obtained by anyone who is interested enough to read through them.

There was a special section devoted to "Veterinary Medicine in Reference to Dairy Cows." This section was presided over by Lieut.-Col. Brittlebank, and took up two afternoons. The first afternoon a paper, "The Veterinarian in Relation to the Milk Supply," was introduced by Mr. Noel Pillers. On the second afternoon a paper, "The Inspection of Dairy Cows and the Need for a State Veterinary Health Service in connection therewith," was introduced by Mr. Trevor Spencer. Both of these papers

are included in the bunch I have given to the Hon. Secretary.

With regard to the practical aspect of the Congress, I would like to have visited more of the dairy farms, but I found it impossible. Of the farms that I did visit I am of the opinion that the Earl of Kerry's was the outstanding one. Certified milk was produced on this farm and the cows were milked by machinery.

The visit to the Reading Institute was of a very practical nature, and although it was my second visit there, I found it most interesting and instructive. I would advise those of you who can spare the time to go there and see the methods adopted for the production of clean milk.

The social side of the Congress was on an elaborate scale, notably the reception given by the Corporation of the City of London at the Guildhall; the social evening of the Congress Committee at the Crystal Palace, and the "At Home" given by Mr. and Mrs. Titus Barham at Sudbury Park, Wembley.

I was unable to spare the time to go to Edinburgh, or to the Royal Show, with the other delegates.

The foreign veterinary representatives included Ostertag, Porchier, a Rumanian veterinary officer, and the Italian Veterinary Inspector General. There was a fairly large number of veterinary surgeons from England and Scotland —I believe I was the only veterinary surgeon from the Irish Free State. I do not know what was the cause, but there was no veterinary representative from the Department of Lands and Agriculture.

Although I found the Congress interesting and instructive, the chief lesson to be learned from it as a whole, as far as the veterinary profession is concerned, is in connection with the relationship of the veterinarian to the production of clean milk. Undoubtedly, the majority of the members of the veterinary profession are not interesting themselves sufficiently with the actual production of milk of a high quality and, therefore, are not being utilised to the extent that they might be. I would like to stress this point, and I think this Association should do everything possible to encourage the profession in this country to take a far more active interest in the production of clean milk.

Professor CRAIG proposed that the best thanks of the Association be given to Mr. Dolan for acting as their Delegate at the World's Dairy Congress and giving a report which was lucid, suggestive and concise. He would recommend the veterinary profession to take Mr. Dolan's valuable advice to heart and become thoroughly conversant with the requirement of a clean and wholesome milk supply. Professor Craig said that Mr. Dolan had also acted as the nominee of that Association on the Committee on the milk supply, and some of the measures recommended in their report showed clearly the mark of his influence. He proposed also that their indebtedness be expressed to Mr. Dolan for his work in connection with that Committee.

Mr. HOWARD seconded the proposal and said that the veterinary profession had the best possible advocate in Mr. Dolan. He had had experience of Mr. Dolan's value on the Committee.

Mr. O'DONOVAN said that the Association was to be congratulated on having sent a representative to the World's Dairy Congress though no public notice was taken of his attendance. He regretted the fact that though that Association sent a delegate, sufficient publicity was not received to show that the Association was sufficiently interested to send a representative for their own education, while the State did not send a representative.

Professor BROWNE said that the State asked the Association to nominate a representative.

"EXPERIENCES IN CLINICAL VETERINARY MEDICINE AND SURGERY": DISCUSSION ON MR. E. MCSWINEY'S PAPER.

Mr. MCCANN then opened the discussion on Mr. McSwiney's paper, which was presented to the Association at Dublin, on 10th May, 1928, and was reproduced in the *Veterinary Record* on June 9th (No. 23, Vol. viii., pp. 457—460), and greatly regretted the circumstance which caused Mr. McSwiney's absence. He considered the paper a very practical one which introduced many interesting items.

Mr. MCCANN said: In consenting to open this discussion, I had looked forward to having the essayist present to answer the various comments which will be passed on the cases recorded by him. Unfortunately, a particularly sad family bereavement has prevented him from being with us this evening. I know that it is your unanimous wish that the meeting send a message to him of deepest sympathy.

The unavoidable absence of Mr. McSwiney takes a lot of the wind out of my sails, in regard to my opening remarks but we are very fortunate in his substitute—Professor Craig—who has so kindly consented to reply on his behalf.

I have read this paper through many times during the past few days, and the more I studied the cases recorded the more interesting they became, and the more grateful I felt to the essayist for his most useful compilation.

I shall allude to the cases in the order of the paper.

No. 1. This was a most unusual case and to me somewhat mysterious. We have an apparently hopeless case, so far as treatment went. Ultimately the discharge ceased and never recurred. From where did it come, and what was its nature? I wonder, did it occur to Mr. McSwiney to have a swab taken and examined for the presence of a causal micro-organism? I fail to see how a dose of mallein could have any beneficial effect on such an affection. Perhaps Mr. McSwiney will be good enough to relate the experience of his neighbour in the treatment which he recommended here.

No. 2 was most interesting and had a happy ending for patient and practitioner. I have had a large needle present itself in similar fashion in a cow, but the swelling was on the side of the chest. The animal suffered very little generally. The formation of the abscess and consequent interference with respiration were all the symptoms presented. There was no abnormal sound in the region of the swelling; nothing to indicate the presence of a foreign body. One morning the owner found the abscess evacuated, and the needle was easily felt and removed. I have also removed a piece of light wire from an œdematous swelling under the abdomen. There had been swellings in that position for three weeks before I saw the case. As there were soft spots I explored—and found the wire. It had come from the reticulum, probably. What a fortunate ending for cow and owner!

No. 3 shows the fruits of keen observation on the part of the essayist. By a process of elimination and a bit of C.I.D. work he got to the bottom of this, in the old days, far too common class of crime: grooms, coachmen or attendants stealing the horses' food. I remember well hearing my respected late father-in-law, who was one of the leading job masters of his time in Dublin, often and often say that it was very difficult to get an honest coachman. "They all sell the oats," he used to say.

No. 4. Apparently the hardness of the oats accounted for the condition of these two horses. But it does seem strange that water, without soap or any solvent present, should cause such a troublesome irritation to the horses' skins.

No. 5 reminds one of such cases in cattle. I do not remember having a case like this where a horse showed symptoms of nervous derangement, like "stomach staggers," in the course of an attack of "common cold."

The case is most interesting, and we shall be forewarned and forearmed if a similar case crops up.

No. 6. Here is an affection with which I have met a few times. The symptoms were exactly as Mr. McSwiney gives them, and the patient died. I used the knife in each case and prescribed continuous hot fomentation with laxative and intestinal antiseptics internally. I have always been puzzled as to the cause of this disease. May we not hope for some enlightenment from a pathological expert present? A practitioner often wishes, when a case like this crops up, that he had the services of such an expert in the field as well as in the laboratory.

No. 7. Here we are on familiar ground. All of us, unfortunately, are bound to have more cases of gangrene of the udder in cows than we ever wish for. They are horrible cases to meet with, and it is often very difficult, or impossible, to get the owner to consent to the application of heroic treatment.

All the ordinary lines of treatment of other forms of mastitis are absolutely useless. There must be no hesitation as to the adoption of radical measures.

Remove the teat or teat and quarter as far as the line of demarcation will allow, make opening for the exit of the gas, etc., and if you get the case early the chances of recovery are often good. At present I have a couple such cases under treatment. The teat has been removed in each case, and in order to make it appear that I am doing something in the medicinal line, I am giving formalin and turpentine internally, the former in ℥ii. doses in the morning in a quart of cold water, and of the latter ℥i. each evening. If the practitioner is allowed to use the knife at once in these cases there is hope of success. Delay is absolutely fatal.

I agree with everything Mr. McSwiney has said as to prevention. But from my experience I think that cases will occur in places where the greatest possible care has always been taken by both owners and attendants.

No. 8 is, I think, a most unusual one, and was rightly most puzzling to the surgeon in attendance. We have all met with cases of obstruction in the equine patient which remained for days without giving rise to alarming symptoms: you have just adopted the Asquithian dictum of "wait and see," with, perhaps, the aid of a hypodermic of eserine. But just fancy a cow exhibiting such symptoms as those recorded, or perhaps I should have said, the absence of the cardinal symptoms. These are the cases which bring even the high and mighty down a peg.

No. 9 also belongs to the category of the very interesting. The only remark I make is with regard to the possibility of seeing the offending piece of mangel in the pharynx. I attend numbers of cases of choking where the offending object is near or apparently in the pharynx, but I rarely can see it on opening the mouth by means of the gag and pulling forward the tongue. So I can absolve the essayist from any wilful neglect in this instance.

No. 10. Reading the account of this case brings home very forcibly to the practitioner working the Tuberculosis Order the fact that every thin, pining cow is not necessarily affected with tuberculosis. What really was the cause of this cow's illness? The essayist may enlarge on it for our benefit.

No. 11. The internal remedy in this instance had the desired effect, apparently. Judging from the subsequent record of this case, might one infer that it was a sort of sub-acute or protracted, half-hearted case of milk fever? The udder treatment anyway proved effectual. On reading the record over again I am inclined to the opinion that the two affections were of a totally different nature. I have recently attended a case of milk fever where the cow had been down for four days before I was called in, and she showed all the symptoms of the disease. One inflation from the oxygen cylinder sufficed to put her on her feet again. I thought it hardly possible that she could recover after hearing the history.

No. 12. This form of treatment is new to me, and therefore I can offer no opinion. Certainly I am looking forward to making a reputation for myself in the treatment of persistent diarrhœa in milch cows. No offence meant. I should like some explanation of the effects produced by the introduction of a foreign protein.

No. 13. I think most members of our profession in general practice meet at some time in the law courts gentlemen of the legal profession whose behaviour at least calls for strong comment. But that is the aim of a barrister cross-examining a witness, only that all do not adopt the same crude methods. I have been very much "rattled" on a few occasions by the tactics of the lawyer on the opposing side.

No. 14. How unusual! One would never expect that the annual washing of sheep prior to "shearing" could have such dire effect as to cause fatal pneumonia.

No. 15. Most interesting to hear of the successful return of a sow's inverted uterus. But the sequel—what occurred to cause the internal hæmorrhage?

No. 16. *Re* cat—Enough said!

No. 17. The last, and by no means the least important of the cases, opens up a most important subject—the correct diagnosis of age in the equine. Nowadays a great many practitioners do not get enough examinations to be over familiar with mouths. One must always be on guard against pitfalls. And there is no department in which the animal expert excels as in this dressing of mouths. We must only pray that the occasion may not arise where we may fall. The last paragraphs of this paper are, indeed, most instructive, and serve to remind us of bits of knowledge which may, for want of being utilised, have perhaps

accumulated so much dust as to be almost obliterated. Of course no one here this evening would admit, for a moment, that he could be "*had*" in ages. Take care. Be honest, with yourself at least, and carry on. We must all do our best in the cases we meet with. And never forget that even Homer sometimes nods. All of us need a helping hand at times in the course of our work, and I think I can safely say that on your behalf and on my own, we have had valuable assistance from Mr. McSwiney, and he has, indeed, given us a very big helping hand.

In conclusion, I once again sincerely thank Mr. McSwiney for the extraordinarily interesting and instructive paper which he has presented to us. And I hope the subsequent good discussion will be some recompense for all the trouble he has taken in the preparation of the paper. (Applause.)

Following upon an extended discussion,

Professor CRAIG congratulated the opener of the discussion on having made himself thoroughly conversant with the various items brought forward in Mr. McSwiney's paper. Even if the members present had not read the paper, after the remarks just made they could not fail to have grasped the main facts of the various cases brought forward. These cases pointed to the necessity of systematic examination and close observation in practice. Typical symptoms were not constant.

Acting for Mr. McSwiney, he had a very easy task, and would reply in as few words as possible to the discussion.

As regards the first case, said Professor Craig, the catarrh present appeared to be of a contagious nature. Possibly some of such outbreaks are really related to strangles. In outbreaks of strangles quite a proportion of horses show only evidence of catarrh. The greenish colour of the nasal discharge was due to the presence of pharyngitis, the fluid portion of the food in part being returned by the nostrils. Mallein is used for the differentiation of glanders, but it has also been injected in the belief that at times other forms of catarrh are probably influenced by an injection. Recovery of this animal was probably brought about by *vis medicatrix naturæ*.

Case No. 2 was a very unusual one, the passage of foreign bodies through the abdominal wall being extremely uncommon in horses, but not infrequent in dogs and bovines. As for Case No. 4, pruritis is sometimes noted where no skin parasites can be found, not only in the horse but also in sheep. The skin appears perfectly healthy. After a time the itchiness disappears.

Cases of a similar nature noted under No. 6 seem to be not uncommon in certain localities. The actual cause is not definitely made known. Perhaps it is due to a variety of organisms, including the bacillus of necrosis, and infection occurs through the buccal mucous membrane.

The treatment of gangrene of the udder as recorded is the most effective, but the condition is also noted in cases where the diagnosis is difficult and the gangrene not well defined. In the use of the terms necrosis and gangrene one has first to refer to their definition. If the term necrosis is used in the sense that it means local death and gangrene putrefaction of a dead part, then necrosis must precede gangrene. Gangrene of the udder is extremely serious and very frequent in the summer months. The number of cases of mastitis may be reduced by frequent antiseptic applications to the teats, but this is difficult to arrange. If infection occurs through the agency of flies it is necessary to apply the dressing very frequently, *e.g.*, after each milking for cows in lactation.

In Case No. 10, it was obvious that in noting whether pieces of the lung floated or sank in water, he wished to determine the absence or presence of pneumonia. Liver flukes are not uncommon in cyst in the lungs of cattle in this country, but I have never yet seen one in the lungs of sheep.

In Case No. 11 the whole history points to the presence in two successive years of unusual premonitory symptoms of milk fever.

In Case No. 12 there is an interesting suggestion that might be tried in practice, namely, the injection of white of egg or serum in diarrhœa in cows. The injection may make good the drain on the animal's resources to some extent. Our experience here is that Johne's disease is uncommon in this country, unlike what is stated to occur in Great Britain. Coccidiosis in cattle, however, is very prevalent, particularly from June to September, usually in young cattle from six months to two years, rarely in cows, and occasionally in calves four to six weeks old. In the diarrhœa in these cases there is often blood in the droppings, and the symptoms only last at most a week or two.

The interesting feature of Case 13 lay in the fact that in spite of the accident the cow calved normally and the calf survived.

As regards Case 14, all the circumstances connected with the losses point to the influence of smoke and washing of the fleece upon the production of pneumonia. In septicæmia hæmorrhagica young sheep are more commonly involved but in this case the disease appeared to be confined to the breeding sheep.

Case 16 indicates the necessity for caution in offering a prognosis.

One more point, Mr. Dolan asked what bearing the proximity of poultry or of cats might have on the production of itchiness in horses. It is well known that a parasite of poultry, *viz.*, *Dermanyssus gallinæ* sometimes attacks the skin of horses. *Notoedres cati* is responsible for the common form of mange affecting the heads of cats and is sometimes transferred to dogs and to man and it might also become parasitic on the skin of horses.

The following members of the profession, being duly proposed and seconded, were elected as members of the Association: Colonel H. T. Ryan, Cork; H. R. Langley, Thurles; M. Smith, Mullingar; — King, Cahirciveen; C. J. C. Ryan, Dept. of Agriculture; and J. M. Crowe, Edenderry.

Professor Craig then read the Report of Council, which was approved and adopted. Arising out of this report was the recommendation that the V.M.A.I. pay £5 to the Central Committee in connection with the dispensaries for the animals of the poor. It was proposed by Mr. Dolan, seconded by Mr. Little and passed unanimously, that this payment be sanctioned.

Mr. MCCANN proposed a vote of sympathy with Mr. McSwiney on the death of his wife. Professor CRAIG seconded and it was passed in silence, all present standing.

(*Continued at foot of first column next page.*)

NOTES AND NEWS.

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events.

Sept. 24th—Meeting of the Editorial Committee, N.V.M.A., at 10 Gray's Inn Square, W.C.1, 4-30 p.m.

Oct. 20th—Meeting of the Scottish Branch, N.V.M.A. at Perth.

The 1928 Congress Number of the "Record."

Next week's issue of the *Veterinary Record* will be a specially-enlarged number, in which will be reproduced full accounts of all the features which made the Congress of the Association, held at Newcastle-upon-Tyne from September 1st—8th, 1928, one of the most successful in the history of the N.V.M.A.

In addition to the President's Address, full reports will be given of the Inaugural and Annual General Meetings, the Annual Banquet and other ceremonial and social events, the operations and demonstrations and the public lecture. A commencement will be made therein publishing reports of the discussions on papers presented to Congress, while an interesting feature will be the reproduction of a number of excellent photographs, including the Congress group.

Members requiring additional copies of the Congress Number are requested to make application at once to Headquarters, enclosing remittance at the rate of one shilling a copy, post free.

Veterinary Medical Association of Kenya.

In this week's issue we reproduce reports of meetings of the Kenya Veterinary Medical Association. We regret that considerations of space prevent us from publishing simultaneously the two interesting contributions to the proceedings which were made by Mr. R. W. Mettam and Mr. J. R. Hudson, but they will appear at the earliest possible opportunity. The paper by Mr. Mettam is entitled: An Introduction to the Study of Poisonous Plants in Kenya," while Mr. Hudson submitted (1) "Observations on the Temperature Curve and Microscopical Examination of the Blood of Normal Calves"; and (2) "Observations on the Temperature Reaction; the Microscopical Examination of the Blood and the Blood Changes produced in Newly-born Calves Reacting to Red Water."

(Continued from previous page.)

Professor Craig invited the members to attend the meetings of Section IV of the Public Health Congress to be held in Trinity College, Dublin, next week, and named the dates and hours of the various meetings.

It was resolved that "The Hon. Secretary is hereby authorised to call a meeting of the Council and Representatives of the various Societies for the Treatment of the Sick Animals of the Poor, early in September."

The meeting then ended.

J. F. Craig, *Acting Hon. Secretary.*

Personal.

It was with much regret and sympathy that those present at Newcastle learned that Capt. W. K. Townson, of Peterborough, the President of the Central Division, had had to leave the Congress hurriedly in consequence of the necessity which had arisen for the performance of a serious operation upon Mrs. Townson. All will be glad to know, however, that the operation met with success, and that every hope is now entertained of Mrs. Townson's complete restoration to health.

. . . . . .

It has only come to our notice, as we go to Press, that Capt. L. S. Balls, of Brixton, has sustained a serious accident. We are sure that our sympathy is shared by the many fellow members of the profession who know him, and that they will be relieved to learn that he, too, is making satisfactory progress.

. . . . . .

Professor and Mrs. Gaiger sailed from Buenos Aires in the R.M.S.P. Co.'s "Alcantara" on 18th September, and are due at Southampton on 3rd October.

. . . . . .

Major W. H. J. Kirk, M.R.C.V.S., Royal Army Veterinary Corps (T.A.) has been appointed D.A.D.V.S., 56th (1st London) Division (T.A.) with effect from 1st November, 1928, *vice* Lieut.-Colonel E. M. Perry, C.B.E., T.D., F.R.C.V.S.

. . . . . .

The following are the whole-time Assistant Veterinary Officers recently appointed by the County Council of the West Riding of Yorkshire:—Messrs. D. E. Canning, M.R.C.V.S., D.V.S.M.; A. B. Kerr, M.R.C.V.S., D.V.S.M.; S. Sharp, M.R.C.V.S., D.V.S.M., and W. A. Ireland, M.R.C.V.S.

R.C.V.S. Obituary.

Beesley, A. P., Sefton House, Slyne Road, Lancaster. Graduated, N. Edinburgh, 21st December, 1896. Died, 4th September, 1928, aged 55 years.

Taylor, J. E., Burlington Avenue, Eastbourne. Graduated, London, 27th June, 1888. Died, 10th September, 1928, aged 60.

Connochie, William Dixon, Selkirk. Graduated, N. Edinburgh, 23rd April, 1885. Died, 12th September, 1928, aged 64.

"The death occurred suddenly yesterday afternoon of Mr. W. D. Connochie, M.R.C.V.S., Ettrick Bank, Selkirk, who was well known throughout the Borders," says the *Edinburgh Evening News*, of 13th September. "Mr. Connochie was a member of an old Selkirk family, and was a very ardent "Souter." He was an ex-Standard Bearer, and was keenly interested in everything pertaining

to the Common-Riding and other local institutions. After a brilliant career at college he joined his father as a veterinary surgeon in Selkirk, and eventually succeeded him. Two of his brothers are veterinary surgeons—Mr. T. Connochie, Galashiels and Mr. R. H. Connochie, St. Boswells. Mr. Connochie held several public appointments. He is survived by a widow and grown-up family."

. . . . . .

Every member of the profession will learn with deep regret of the death of the distinguished Editor of *The Field*, Sir Theodore Cook, which occurred suddenly at his Chelsea residence on Sunday last. After long service in numerous important journalistic capacities, Theodore Cook was, on the resignation of William Senior, offered the editorship of the *Field*. This post he held until his death, and it was through the *Field*, which took a line of its own in the War, setting sport in its due place, that he received the honour of knighthood in 1916. He did valuable work for the investigation of grouse disease and distemper in dogs.

Theodore Cook was a facile and gifted writer, with a curious and exact knowledge of many subjects, from French architecture to horse-racing.

Erratum: In the report of cases and specimens presented at the last meeting of the Western Counties' Division N.V.M.A., and published in last week's *Record*, the word "lamb" should read "*raw*" in the following sentence (p. 751, col. ii., line 8), " . . . pigs had been feeding on lamb offal."

CORRESPONDENCE.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.
All correspondence must bear the name and address of the contributor for publication.
The Editor does not hold himself responsible for the opinions of his correspondents.

A Further Appeal on Behalf of the Victoria Veterinary Benevolent Fund.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—In a poor speech in which I proposed the health of "The Ladies" at the Annual Banquet of the National Veterinary Medical Association, I threw out an appeal to the ladies to do something, however small, to aid the Victoria Veterinary Benevolent Fund. It was neither the place nor the time to go into details, but may I now suggest, through the medium of your columns, the following? :—

In each area of the country covered by a Division of the National Veterinary Medical Association there should be formed a "Ladies Guild" of the Victoria Veterinary Benevolent Fund.

All wives, sisters, daughters, or any female relatives of veterinary surgeons, or indeed any ladies living in the district of the Division, to be eligible for membership. I do not, of course, presume to dictate, but merely suggest, that the terms of membership should be :—

(1) A membership subscription of about 2s. 6d. per annum.

(2) The objects of the members to be that they will promise by direct or indirect methods to raise individually a further sum of *not less than* 17s. 6d. *per annum*, the subscription or donation of the husbands or male relatives *not to be taken into account*.

(3) Each Guild would elect its own office bearers, comprising a Chairman, a Secretary and Treasurer, a small Committee. These would be responsible for forwarding to the General Secretary of the Fund, at 10 Red Lion Square, London, W.C.1, a report of the work done, and for handing over to him the amounts collected. I am prepared also to propose to the existing Council of the Fund that they be willing to receive as *ex-officio* members of the Council six Delegates elected to represent the Guilds and elected by them—one each for Scotland, Ireland, Wales, North and South England and the Midlands, provided it is proved there is a Guild carrying out its obligations in *all* the Divisions of the N.V.M.A. situated in those areas.

The above is, of necessity, only a rough proposal which can be modified, but a start has to be made and I appeal to all who read this letter to pass it on to their ladies, and at the same time use a certain amount of pressure to get them to take up the scheme.

Will any ladies who have ever so slight an interest in the scheme drop me a line and state if they are willing to get the scheme going in their district by acting as conveners of meetings or sending circular letters, and I will do my best to help them.

It is the little things in life that count, and if only this, or a similar scheme is taken up (as I have confidence enough in the ladies to think it will be) the Benevolent Fund will be in a position to give more practical aid to those unfortunate sisters of ours who, through no fault of their own, find themselves in dire financial distress.

The Fund is now spending even more than it can afford in relieving only the most necessitous cases, 70 per cent. of which are ladies; I therefore once again appeal to the ladies to aid in helping their sisters.—I am, yours faithfully, P. J. SIMPSON, Hon. Secretary, Victoria Veterinary Benevolent Fund.

Shirley, Castle Hill,
Maidenhead.
September 14*th*, 1928.

Cysticercus bovis in Tanganyika.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—With reference to Mr. De Vine's paper: "Common Parasites in Relation to Food Inspection," appearing in last week's issue, some of his statements about the *Cysticercus bovis* do not tally with what one commonly finds in Tanganyika. I have found *Cysticercus bovis* in about half the carcases examined in some districts of that territory. The paper says the cyst is not readily discovered; we did not find any difficulty in these heavily-infested districts, the difficulty rather was not to discover them. We found the commonest seats to be—the buttocks, the shoulder muscles and the heart. Much less commonly was it found in the liver, in which organ it was very frequently in a state of caseation. Noting that the text books, as did Mr. De Vine's paper, referred to the masseter muscles and the muscles of the tongue as being common seats, I used to make a practice of examining these and found that the cyst was far less common in these places than in the buttocks, the shoulder muscles and the heart.

In Tanganyika we make one deep cut into the buttocks and the shoulders on each side, but we should not be allowed to do this in this country. I was rather interested on hearing that a friend, with whom I had dined a little while before, had developed tape worm, and I remembered we had his favourite dish—"rare steak." I noticed he immediately gave orders that in future the beef was to be thoroughly cooked.—Yours faithfully, J. M. ARMFIELD.

Garth Steading, Chipstead,
Surrey.
September 18*th*, 1928.

The Editor acknowledges the receipt of the following :—

Report of a meeting of the North of Scotland Division, from Mr. James McAllan, Hon. Secretary.

Communications from Messrs. J. M. Buchanan (Glasgow) Howel V. Hughes (Liverpool), and O. Stinson (Appleby).,

Veterinary Medicine

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A. T. KINSLEY, D.V.S.

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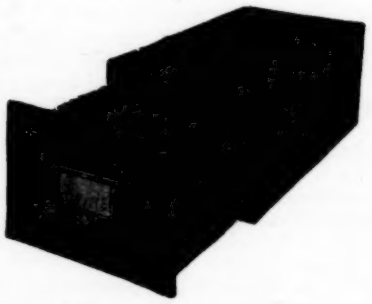

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